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ABSTRACT

This is the final report of the Reading Research Utilization Project (RUP) which was funded by the U.S. Office of Education from July, 1971 to June, 1973. The purpose of the RUP was to encourage the translation of research, particularly reading research, into practice in 16 target elementary schools in Washington, D.C. RUP was a school information service project for teachers and other field personnel directed by the Research Information Center (RIC). A special feature of the project was the use of educational extension agents to provide a link between the central resources of the RIC and the needs of the target school personnel. Services to RUP clients included on-line computer searches of ERIC, CIJE, Pacesetters in Education and the in-house files of the Council for Exceptional Children, manual searches, transformation services, microfiche and limited hard-copy reproduction, referral services, loan of portable microfiche readers and dissemination of innovative practices. Case studies are included in the report to demonstrate the practical ways in which research was utilized in the schools. A survey evaluation of the participating principals' attitudes toward the project revealed favorable attitudes toward the project and an increase in searches. (JG)

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FINAL PROJECT REPORT

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FINAL REPORT ABSTRACT

The focus of the study was upon the process of translating research into educational practice at the instructional level in the D. C. Public School System. As envisaged in the original proposal, a small cadre of professional staff members, called educational extension agents, were employed to act as a link between central research resources and key field personnel-teachers, principals, librarians, reading specialists- in 16 target elementary schools. Also according to the model, the target school librarians expanded their normal roles as school based information specialists to become "gatekeepers", or special contacts to open the gate and admit or channel information and services of the project into the school. A needs survey instrument was also designed to identify and define specific research problems and information needs in the target schools.

One goal of the project was to make target personnel more knowledgeable about research findings and how these findings could be utilized in their day-to-day teaching and supportive activities. A second goal was to provide information to local schools for the development of programs.

Project evaluation consisted of two parts: 1) documentation of information utilization through case studies, and 2) a detailed analysis of the impact of the Research Utilization Project on Principal's attitudes and on the use of information services by teachers and other field personnel in the 16 target schools.

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INTRODUCTION

This document represents the final report of the Reading Research Utilization Project (RUP) covering the original grant period of July 1, 1971-December 23, 1972 and the continuation grant period of December 24, 1972-June 30, 1973. The total grant award for this period was $119,899. This report supplements the Interim Report of the project dated September 1972. (ERIC document ED 069 281).

The Project Setting - The District of Columbia

The District of Columbia has the 12th largest public school system in the United States. In the 1972-1973 school year the Public Schools of the District of Columbia served approximately 140,000 elementary and secondary school pupils, 95 percent of whom are black. As in other large cities, total school enrollment figures for the District have been declining slightly over the past few years. In 1971-1972, enrollment was 143,411; in 1970-1971, 146,224. This drop is attributed to a declining birthrate, a drop in pupil entries from other states, and a substantial out-migration to the suburbs of families with school-age children.

Despite the gradual decline in enrollment, the demands upon the school system have been increasing. A school system study completed in May 1972 showed that in the school year 1971-72, 50% or 43,101 of 86,866 elementary school students were eligible for free lunch and 33% or 10,106 of 30,879 junior high school students were eligible for free lunch. According to the census data, 66 percent of the District's elementary school children live in school attendance areas where the median family income of the population is lower than the median family income of the District population as a whole. Special resources are required to serve students with these needs. Not only have these special resources not been available in the regular budget, but also the lack of budget increments to cover inflationary costs has precipitated additional problems. The insufficient financial resources to cope with the lack of socio-economic advantages of a large proportion of the D. C. school population have placed serious constraints on the school system's efforts to achieve its major goal of providing quality education for the children, young people, and adults of the community.

The four program objectives of the school system adopted in school year 1971-72 and which will be continued in the school year 1973-74 are:

1. To significantly raise the level of academic achievement of all students in the areas of reading, written and oral communications, and mathematics

2. To radicaliy expand full-time programs for children with severe handicaps and learning disabilities

3. To strengthen and expand career development programs for all students

4. To maintain and strengthen noneducational services which are vital in support of a quality educational program.

RUP, a non-instructional support service to field personnel, has directed its thrust to program objective one as shown above.

The Program Thrust

The Research Information Center (RIC) was organized in 1969 to assist the professional staff of the District schools in educational research relating to classroom use, proposal preparation, curriculum development, professional development, and administration. RIC, a unit of the Division of Planning, Research and Evaluation of the D. C. Schools, submitted a proposal to the Office of Education in April 1971 for the establishment of a Reading Research Utilization Project (RUP). The U. S. Office of Education awarded the contract to the D. C. Public Schools, and funding began in July 1971 for an initial period of 18 months.

The staff of the RIC under the grant has consisted of the coordinator, his assistant, three educational extension agents, and a clerk-typist. The coordinator's salary is paid out of regular state education funds, while the rest of his staff are funded under an ESEA Title IV grant from NCEC.

The Reading Research Utilization Project (RUP) is an RIC school information service project for teachers and other field personnel. Funded in July 1971, the project is in direct support of the D. C. School System objectives of raising the reading achievement of students. Through RUP, the Research Information Center has extended special research information services to 16 elementary schools on an experimental basis, and to the staff of the Center for Educational Advancement (CEA), a teacher renewal project funded separately by the Bureau of Educational Personnel Development of the U. S. Office of Education. It is the purpose of the Educational Extension Agent (EEA) to act as a link between the central resources of the Research Information Center and the needs of the target school personnel.

Services provided to RUP clients included computer searches (on-line) of ERIC and CIJE as well as Pacesetters in Education and the in-house files of the Council for Exceptional Children (CEC); manual searches; transformation services; microfiche reproduction, production of hard copy in limited quantities; referral services; loan of portable microfiche readers, and dissemination of innovative practices.

The selection of the 16 target elementary schools was determined by the fact that they had previously participated in a school program evaluation, for which participation they had been selected by a multistage stratified sampling method based on enrollment. Also, it was hoped that

the existence of a data bank on these schools might prove to be of benefit for any future correlational purposes. Inclusion of CEA grew out of a series of meetings and an exchange of appropriate documentation between the D. C. Public Schools and USOE. The project coordinator of RUP was already on the staff when the project began. However, a freeze on jobs and a general fiscal crisis experienced by the D. C. Schools caused a delay in staffing. The assistant coordinator of the RUP Project, who was already on the staff of the Division of Planning, Research and Evaluation, assumed her duties September 1, 1971, but due to the above mentioned freeze, two of the three EEA's did not join the Project until January 10, 1972, while the third EEA began May 1, 1972.

On-the-job training for the first two EEA's began January 10, 1972 and extended over a period of two weeks. The third EEA began her training May 1, 1972. The librarians of the target schools, who were to play an important role in the project were trained February 2 and 3, 1972.

The RUP has identified the target school librarian as an institutional "gatekeeper"--a person in the local school who can interact with colleagues to bring research findings to the attention of personnel at the consumer end of the information pipeline. Actual experience growing out of the RUP indicates that the librarian can work effectively in such a role.

In conclusion, the main purpose of the RUP has been to encourage the translation of research into educational practice at the instructional level in the D. C. Public Schools. To effect the link between the resources of the RIC and the needs of key field personnel--teachers, principals, librarians, reading specialists--educational extension agents have been used to acquaint target personnel with research findings and to provide information to classroom teachers for initiating and developing programs.

CHAPTER I

I. Final Report on the Status of Implementation of the RUP, July 1971-June 1973

This section consists of a report on the status of implementation of the RUP for the period July 1971 through June 1973. The reported performance is described in the light of relevant stated objectives.

A. Statement of Project Objectives

The objectives as they appeared in the original grant proposal follow:

1. Survey, identify, and define specific research problems and needs related to reading in the 16 pilot elementary schools in order to provide support to key local school administrative, supervisory, instructional, and supportive personnel.

2. Survey and identify the felt needs of these local school personnel relative to reading in the 16 target elementary schools.

3. Provide professional staff members who will act as a link between central research capability and resources and teachers, principals, librarians and reading specialists in the target schools by providing research information to local schools to help plan and organize programs for implementation, since presently these schools have little in the way of information resources.

4. Build an awareness among target school teachers and other field personnel through personal contact with the teacher and special dissemination activities and services about the availability of research findings and how these may be utilized in their day-to-day teaching and related activities.

5. Locate usable information about innovative ideas, practices, and products matched to user interests and needs by means of utilizing and building on the established central administrative research capabilities and resources of the Research Information Center.

6. Determine the effectiveness of the program in the process of matching research information to the needs of target school personnel. Effectiveness will be determined by evaluation of programs in the target schools which have been identified as having been initiated or developed as a result of either direct or indirect contributions of this program.

B. Staffing and Training of Educational Extension Agents and Orienting Target School and Center for Educational Advancement Personnel to the Services of the RUP

The following objectives relate to the above stated project activities:

- Provide professional staff members who will act as a link between central research capability and resources and teachers, principals, librarians, and reading specialists in the target schools by providing them with research information to help them plan and organize programs for implementation, since these schools presently have little in the way of information resources. (Objective 3)

- Build an awareness, through personal contacts and special dissemination activities and services among target school teachers and other field personnel, of the availability and utilization of research findings in their day-to-day teaching. (Objective 4)

1. Project Funding and Recruitment

The Grant Award Notice from the Grants Officer to the D. C. Public Schools was dated June 14, 1971. Following the receipt of this notice, the machinery for formally accepting this grant was set in motion and certain fiscal and accounting procedures were initiated.

First, a written "checklist" of skills and competencies for recruiting the "liaison researcher" or educational extension agent (EEA) was prepared prior to recruitment and this served as a guide to selection. Elements on this list were developed as a result of a review of available literature and subjective inspiration.

A written "checklist" was also prepared for recruiting the "Assistant Project Coordinator." This was prepared at the same time as the other list. The specifications for the Assistant Project Coordinator originally called for a professional librarian. For various reasons, however, including the temporary nature of the project and the salary, it was difficult to recruit a candidate with this background. The individual finally designated for this position was first selected as an EEA. Her demonstrated competencies were such that it was felt she would perform well as Assistant Coordinator.

Background information for the development of a job description of the "liaison researcher" or educational extension agent was made available to the Personnel Department for preparation of vacancy announcements. This included both oral briefings and written descriptions. As early as August 4, 1971, a memorandum was sent to the Personnel Office requesting the establishment of project positions. Confusion caused by shifting school system priorities due to a fiscal crisis resulted in delays in the necessary paper work. Finally, on September 9, 1971, a vacancy announcement was issued.

2. The Selection Procedure and Staffing

Approximately 40 individuals filed letters of interest or applications for the four vacant positions. Many hours were spent by the Project Coordinator in reviewing applications, writing letters, making telephone calls, scheduling meetings and finally interviewing most of these applicants. An informal committee of three, including the Project Director, a former principal and the Project Coordinator reviewed the qualifications of the candidates. The most qualified were notified of their acceptance. Unfortunately, a freeze was imposed by the Superintendent in December 1971 on all positions supported by any source of funding, regular or federal, and this made it impossible to move on hiring for the project until well into the project period.

The Project Coordinator was already on the staff when the project began and his position was supported entirely by local funds. A freeze on jobs and the general fiscal crisis experienced by the D.C. Public Schools caused a delay in most other project staffing. The Assistant Coordinator of the RUP Project, who was already on the staff of the Division of Planning, Research and Evaluation, assumed her duties September 1, 1971, but due to the reinstatement of the "freeze" on positions two of the three linkers did not join the project until January 10, 1972, while the third linker began employment May 1, 1972.

3. Training for the Educational Extension Agents and Target School Librarians

On-the-job training for the first two EEA's began January 10, 1972 and extended over a period of two weeks. The third EEA began her training May 1, 1972. The orientation and training for RUP staff included an introduction to basic school systems resources, including the Division of Planning, Research and Evaluation, and also certain information resources in the city. Valuable assistance was given by Mrs. Mary McCord of the ERIC Clearinghouse on Library and Information Sciences (ERIC/CLIS) in the understanding and use of ERIC tools, including the ERIC Thesaurus of Descriptors, Research In Education (RIE), Current Index to Journals in Education (CIJE), and the Rotated Descriptor Display. Training in the use of the on-line information retrieval system, DIALOG, was provided. Technical assistance in improving terminal use was provided by Bob Donati, Lockheed Missiles and Space Company. Selected reading assignments were also required as a further introduction to the problem of information transfer and utilization.

In early February 1972 a special training session for target school librarians, EEA's, and certain Department of Research personnel was arranged for by the RUP Project Coordinator, in conjunction with the Director of Project RISE from the state of Pennsylvania and the RUP Project Officer at NCEC/USOE. Actual

training services were provided by RISE staff members. The two one day training sessions concentrated on question negotiation and basic retrieval skills, using the ERIC Thesaurus, RIE, and CIJE. All necessary materials for orientation and training, RISE staff travel, training accommodations, and luncheons were provided by RISE. Additional training was provided one of the EEA's when she participated in the March 4-9, 1973 training session at Stanford University to help validate modules and materials for training educational extension services personnel. Other opportunities have been provided on an on-going basis to all staff members to participate in conference sessions and workshops to enhance their professional capabilities and knowledge.

4. Orientation of School Personnel

The Project Director, in cabinet meetings with the Superintendent and senior level school administrators, has from time to time, given briefings on and otherwise attempted to create greater awareness of the services of the RIC in general and of RUP in particular.

The Board of Education was provided with a formal letter signed by the Superintendent of Schools briefly describing the nature and scope of the project and recommending acceptance. A copy of the grant proposal was also included. The Board of Education formally accepted the grant.

A series of informal discussions and meetings took place with the Director of the Department of Library Science and her staff. They were consulted in recruitment of personnel, and some applications resulted from these discussions. They were given a tour of the RIC facility, and a demonstration of ERIC resources and DIALOG computer capabilities was also provided. The close working relationship of the EEA and the librarian was also discussed. The Director and her assistant attended and participated in the training and orientation session held in February 1972. RIE, CIJE, PREP and other materials sent to the target school librarians were also provided to the Department of Library Science. Their cooperation and assistance greatly facilitated working with the librarians.

Other briefings were given to the Associate Superintendent, Division of Instruction, and the Assistant Superintendents of the Elementary Department, Model School Division, and Anacostia Model School Project, all of whom had responsibilities and authority over all or some of the target schools.

Two meetings with target school principals were scheduled by the Project Director for September 28 and 29, 1971 for purposes of reviewing various aspects of the Evaluation System Plan. An introductory session on the services of the RIC and the RUP Project was

"piggybacked" in this meeting. Approximately one half of the principals gathered on the 28th and a presentation was given, but due to unforeseen events the second group was unable to meet, and it was not possible to schedule a later meeting in the offices of central administration. Therefore, principals were given the information through telephone calls and follow-up conferences.

Formal orientation sessions were given by the Project Coordinator, on site in the schools. School personnel usually present included the Principal and/or Assistant Principal, the Librarian, the Counselor and the Reading Mobilization Chairman. Other teachers sometimes participated. The number of school personnel at these meetings averaged between four and five.

Follow-up visits to each school were made by EEA's after they came on board, to review with field personnel project purposes and services especially where several months had elapsed between the initial visit of the Project Coordinator and the hiring of EEA's. In general, the policy was to make a visit to each school as frequently as possible or as needed.

Meetings with the target school principals in late 1972 also provided an opportunity for exchanges between the Project Coordinator and these administrators on the progress of the project in their schools. For the fourteen-month period July 1, 1971 to August 31, 1972, 72 demonstrations were given to 740 individuals and involved 110 hours of staff time. Additional hours have been spent since then with follow-up meetings and new demonstrations. This information is mentioned here to illustrate the effort that was expended to build awareness.

5. Assignment to the Target Schools and Observations of Extension Agents in the Field

Target school assignments were made by the drawing of lots. As mentioned in the introduction, the selection of the 16 target schools was determined by the fact that they had previously participated in a pilot school evaluation program. Their selection for that program was based on a multistage stratified sampling method based on enrollment. There were eight "large" schools and eight "small" schools. In choosing the assignments, therefore, eight pieces of paper were prepared, each marked with a different number, 1-8, corresponding to a paired large and small school. EEA's took turns drawing. The person drawing a numbered slip got the large school; a paired small school in the same geographical area went by default to the other EEA. This ensured that each agent had an equal number of large and small schools and also a fair distribution of schools geographically.

Considerable time and effort were expended to minimize any possible administrative, jurisdictional, or personal friction that

might have tended to jeopardize the acceptance of the project at all levels. Every effort was made to show that this was a project with a special thrust--i.e., that teachers would receive more than they would have to give. Illustrative of this were the additional resources and services described in various meetings with target school personnel. Letters to this effect were sent by the Project Director to Target School principals and teachers in separate memorandums in August 1971.

In the Interim Report certain observations of the EEA's were included which reflected some of their field operation experiences after only five months on the job. Some of these early experiences, along with some additional new observations, follow:

a. Initial visible, enthusiastic support from the principal facilitates and helps accelerate acceptance of the EEA among the staff members.

b. An invitation to the EEA by the Principal to attend and/or participate at staff meetings tends to help establish an "aura" of acceptability and legitimacy in the school operation.

c. An attitude and recognition on the part of the EEA that the principal is the institutional change agent in the school building is important. The EEA must work toward supporting and reinforcing that role through activities designed to make it easier for the principal to keep aware of trends in the profession and changes or innovations in instruction.

d. The attitude and presence or lack of cooperation of key target school personnel (the principal, librarian, counselor, reading mobilization team chairman) can promote or retard achieving project goals. It has been observed that the ability to encourage others to initiate activities or projects sometimes lies with individuals who, by virtue of peer relationships and other personal qualities, influence other school personnel.

e. In terms of the EEA's "approach" to teachers, it is felt that the image of a fellow colleague is more effective in establishing working relationships than that of the EEA assuming the attitude or role of a school officer or "expert."

f. EEA involvement in less structured and more informal settings, such as a meeting over lunch at the school, staff development workshops held at the school, grade level meetings, discussions in the teacher lounge during breaks or planning sessions, and so forth seem

to be settings more conducive to building interpersonal helping relationships with staff members.

g. Previous teaching experience or background in education and a demonstrated awareness and empathy for the teachers' problems are important elements in building and maintaining a working relationship with teachers. Both EEA's have had teaching experience and feel that this has been very useful.

h. Any large organization such as a large city school system is constantly experiencing changes of personnel. Building awareness in a school system means not only reaching as many potential information users as possible at any one time, but continuously. With new personnel coming in and others changing positions, expansion of awareness takes on new meanings and should clearly be viewed as an on-going process.

i. Clients will frequently contact other resources before initiating a request through an extension agent. This should not be interpreted as lack of confidence in the EEA. Rather, the client is very often referred by a satisfied user to an extension agent as a worthwhile source of information.

j. Over the span of the Project, frequency of EEA visits appeared to have a diminishing effect. Frequent visits early in the project stimulated requests for information. Later in the project, EEA visits were made as a need arose.

k. The strategy of devoting fixed dates of service for each school was discarded. This form of scheduling visits to schools seemed too inflexible, and resulted in a few cases of an appearance of unavailability and was counter-productive Clients were more satisfied with a flexible schedule which provided information when needed.

l. "Turnaround Time," that is, the time between initial request for information and delivery, as well as quality of that which is delivered, does affect credibility of project services and project acceptance. Turnaround for most RUP clients was a few days. Other field agent projects reported turnaround time of several weeks. The availability of on-line searching capability in the Center, plus the compactness of the urban setting, helped to compress this turnaround time. It is felt that a turnaround time of a week is perfectly acceptable in most cases.

m. Conducting searches for teachers who are taking graduate level courses is useful in building awareness of information resources and services. Information services in support of graduate programs for teachers aimed at action research, staff and curriculum development, and similar efforts may actually encourage the research utilization process.

n. Research is seldom utilized "overnight." Success in information services is measured over time. All new ideas require time before developing into changes in teaching behavior.

o. It appears that younger teachers, fresh out of college, tend to be more open to the idea of trying new approaches in the classroom. More experienced teachers, on the other hand, have other kinds of needs, such as the desire to improve techniques being used, more pragmatic information, etc.

6. Advancing Professional Knowledge and Skills of RUP Personnel

The role of the Educational Extension Agent was, prior to the initiation of this Project largely undefined, insofar as this was a relatively new job for which only minimal orientation and training could be provided. The initial orientation and training provided was spelled out earlier in the report. However, it cannot be stated too strongly that opportunities for professional development need to be cultivated and seized upon in an on-going program.

Listed below are a number of professional conferences and meetings attended by members of the RUP staff. Funding for these activities derived from a variety of sources including project sources.

a. On September 13-16, 1971, a meeting of Directors of Education Improvement Centers in conjunction with an ERIC Tape Users Conference was held at the Holiday Inn in Silver Spring, Maryland. The Project Coordinator attended and delivered a presentation at this conference, including the showing of the "All About ERIC" slide tape developed by an RIC staff member.

b. On November 9-10, 1971, the Project Director attended the Fall Information Dissemination Conference held in St. Louis, Missouri. Objectives of this conference were to provide opportunities for the participants: 1) to receive practical training in information dissemination within a state education agency, 2) to exchange ideas about dissemination, and 3) to be apprised of project objectives and activities.

c. On November 16-19, 1971, the Project Coordinator attended a seminar for managers of information centers on the training of Education Information Consultants, held at the Far West Regional Education Laboratory in Berkeley, California. A special visit was made to the Educational Resources Center of the San Mateo County Office of Education.

d. On March 2-3, 1972, the Project Coordinator and the Assistant Project Coordinator attended an ERIC On-Line Conference of members of the DIALOG network held at the Holiday Inn, in Arlington, Virginia. Each participant presented an overview of respective operations. Discussion centered around reporting requirements, new search procedures, and future plans. While at the conference an on-site visit was made to the ERIC Clearinghouse on Exceptional Children (CEC) a member of the DIALOG network.

e. On April 4-6, 1972, the Project Coordinator and the Assistant Project Coordinator attended a "Seminar on ADP In Technical Information Systems" given at the U. S. Civil Service Commission. "This seminar was -- designed to present an overview of the application of data processing techniques to various aspects of information handling, and to discuss the important criteria for the design, analysis, and evaluation of an automated technical information system."

f. On April 12-14, 1972, the Project Coordinator attended a "Seminar on Indexing and Abstracting," given by the U. S. Civil Service Commission. This three-day survey and skill-learning session concentrated on acquiring indexing and abstracting concepts by "doing" sample indexing and abstracting experiences.

g. On May 11-12, 1972 plans for NCEC's educational extension program were discussed at the National Dissemination Conference hosted by the State Education Department, Columbia, South Carolina. The Project Coordinator attended for the Assistant Superintendent for Research and Evaluation who is the State Dissemination Liaison Representative for the State Education Department in the District of Columbia. The conference agenda included a very worthwhile on-site visit to the Research Information Unit. Also very informative sessions were spent in discussion with EEA's from the Pilot State Dissemination Programs of Oregon, South Carolina and Utah. Representative users of South Carolina's RIC services spoke of their experience with the extension agent program and use of information services.

h. On September 19-21, 1972 Research and Information Services for Education (RISE) hosted a National Conference of Educational Information Centers in cooperation with the Division of Educational Extension Systems of NIE at the Downingtown Inn, Downingtown, Pennsylvania. Representing the Research Information Center were the Project Coordinator, Assistant Project Coordinator and one Educational Extension Agent. The conference was organized into the following four functional areas: 1) Project Management, 2) Information Resources Management, 3) Information Services Personnel and 4) Field Extension Agents.

i. On October 19-20, 1972, RISE, in cooperation with Lockheed Information Sciences and the National Institute of Education, hosted an ERIC/DIALOG Conference in King of Prussia, Pennsylvania. The Project Director and one Educational Extension Agent participated in this meeting. Attendees numbered sixteen, including Lockheed and NIE representatives. Topics included new search capabilities of DIALOG, quality control in search output, productivity, evaluation, and future network plans.

j. On February 22-23, 1973 a National Dissemination Conference was held in Chevy Chase, Maryland. This was the third such conference in a project designed to enhance dissemination functions in State Education Agencies. The Project Coordinator attended this meeting. The main focus included a report on the status of dissemination and the field agent program at NIE, a summary of the evaluation of the Pilot State Projects, a statement on educational change and dissemination, information needs in education, and funding sources for dissemination activities.

k. On March 4-9, 1973 an evaluation session to field test certain training materials was sponsored by the National Institute of Education and held at the Institute of Communication Research, Stanford University, Stanford, California. One of the extension agents who had not yet had an opportunity to attend a conference was sent to this meeting. The purpose of the conference was to evaluate the modules and materials for training educational extension services personnel. These materials were produced by the Far West Laboratory for Educational Research and Development in Berkeley, California. Staff from the Stanford University and Systems Development Corporation guided the 16 participants from ten states and the District of Columbia through evaluation sequence.

l. On April 2-4, 1973 the ERIC Data Base Users Spring Conference was held at the Marriott Twin Bridges Motor Hotel in Washington, D.C. Attending from the RIC were the Project Coordinator, the Assistant Project Coordinator, and an Educational Extension Agent. Excluding the staff of the National Institute of Education, and the ERIC Facility, there were 58 official attendees representing 45 organizations. Workshops covered the following topics, "Techniques and Tools for Better Retrieval," "Products and Services from the ERIC Data Base," "Costs of Searching," and "Tape User Services and Technical Assistance."

m. On May 2-4, 1973 Lockheed Missiles and Space Corporation hosted the ERIC/DIALOG Users Meeting at the Commodore Hotel in New York City. The Project Director and one Educational Extension Agent presented a discussion paper entitled "Toward Evaluating DIALOG Operator Productivity" explaining various guidelines developed and tried in the Research Information Center to improve on-line terminal usage. Seven operating centers, which were members of the national network, participated, along with representatives of the National Institute of Education and Lockheed Information Sciences.

n. During the period of July 24-August 11, 1972 two RUP staff members and six regular Departmental staff members attended an Urban Educational Research Training Institute held at Howard University in cooperation with the Research Training Division, Office of Education.

The primary focus of the Institute was to provide training in the fundamentals of research planning, data collection, data analysis and report writing. The two RUP staff members who attended developed projects in direct support of RUP evaluation. Howard University staff members plus the D. C. Schools' research staff worked with the individuals to ensure quality programs. Continuous support was given trainees by Howard and Institute staff through the use of weekend sessions scheduled during the year and through visits by the professional staff. The reports from these two projects and their findings and conclusions constitute a part of the evaluation of the RUP Project.

o. Another EEA undertook graduate level courses at George Washington University during this project period. One course dealing with "Clinical Problems in Reading Diagnosis and Remediation" involved a longitudinal case study of the effect of clinical diagnosis and tutorial

remediation on a fifth grade student. The second course entitled "Practicum In Reading," involved teaching developmental reading to a group of college bound students. Additional time was also spent teaching remedial reading to a student with brain damage. These courses led to the earning of a Master of Arts in June 1973 and certified this EEA as a reading specialist qualified to work in that capacity in grades 1-12.

These seminars, courses, institutes, and conferences are included in this report to demonstrate the high level of professional commitment and concern of the members of the project staff.

C. Survey of Needs

The basic thrust of the information needs survey process was twofold, namely 1) identification of needs and 2) providing a response to the stated need. During the project period two such surveys were conducted. These surveys are being discussed in detail in the following pages.

The objectives listed below relate to information needs identification:

- Survey, identify and define specific research problems and needs related to reading in the 16 pilot elementary schools in order to provide support to key local school administrative, supervisory, instructional and supportive personnel. (Objective 1)

- Survey and identify the felt needs of these local school personnel relative to reading in the 16 target elementary schools. (Objective 2)

1. Operational Philosophy and Considerations in the Development of a Needs Survey Strategy

The purpose of identifying needs for this project is to better enable project personnel to offer service to target school personnel in meeting their individual and collective needs and those of their students and to do this in a way that is responsive to stated needs of requests for information.

Consultation in the development of the needs survey was provided on a continuing basis by the staff of the Departments of Research and Evaluation as a school system contribution to the project. The efforts and thinking of all RUP staff members were continuously involved in the development of this instrument.

Certain elements were identified as desirable criteria in the design of the survey of needs instrument. These included: 1) content, 2) voluntary completion, 3) ease of response for client, 4) responsiveness, 5) replicability, 6) ease of administration, and 7) innovation.

Content refers to subject categories included or covered in the needs survey. Experience in the field, past requests, and available materials (for example, PREP reports) played a part in the determination of content. Voluntary completion was felt to be an important feature, and this approach would allow information needs of field personnel to emerge in the form of requests for information. Much attention was given to making it easy for the client to respond to the survey. First, it was kept relatively brief; a minimum of effort was required of the client to complete the survey and it was designed to be returned through school mail requiring no postage.

Responsiveness refers to that characteristic which, after the identification of an information need, goes one step further and provides a response to that need. Replicability refers to its revisability largely by a change of content. This will allow for example, the issuance of each survey on a quarterly, semiannual or annual basis. Ease of administration applies to the relative ease of executing such a procedure without the need to go to elaborate and formal instrumentation and the time and resources required to carry out that type of approach. Finally, it is felt that this approach is innovative in that it contains these many desirable features and may, therefore, be of interest or use to other information centers as they consider the problem of needs assessment.

The approach finally adopted for the needs survey instruments, in 1972 and 1973, which utilizes a request form format, was selected and developed in consultation with the staff of the Departments of Research and Evaluation and in light of the desire to meet the above mentioned criteria.

2. Needs Survey 1972 - Design, Implementation, and Results

Although the details of the implementation of the Spring 1972 Needs Survey are contained in the Interim Report, they will be repeated here for the convenience of the reader in making comparisons with the 1973 Needs Survey. The discussion which follows deals with the ~~preeedures~~ followed by the RUP Staff in implementing Needs Survey 1972.

Research on the approach to Needs Survey 1972 began in early-mid March 1972 and culminated in June 1972 with the dissemination of the first Needs Survey to all target school personnel. Reproduction was done locally by D. C. School Clerical Services.

Distribution was made to each school principal through school mail. Return of completed forms was via school mail and in some cases was picked up by the extension agent. Completion and return of the form was voluntary in accord with an agreement with the Washington Teachers' Union.

The Needs Survey Form (See Appendix A) consists of an introduction and basically three other parts, namely: 1) Personnel identification, 2) Area of interest and indication of need, and 3) Application or use of information. Respondents are asked to:

a) Provide their names and other selected information so that appropriate follow-up might take place.

b) Indicate area of information need by placing a check in the appropriate space. For each item requested, respondents were asked to give the date by which the information was needed. The column labeled "Definitely Needed" was to provide a means for the client to state some purpose as to his or her own priority of need. The extension agent could use this as a guide in servicing requests. Space for write-in requests and needs was provided at the bottom of the page.

c) Indicate the use or application of the information requested utilizing the use code provided. The categories identified were: 1) classroom use, 2) administration, 3) professional development, 4) proposal preparation, 5) curriculum development, and 6) other (specify). This could be tabulated to document "intended utilization" as stated by the requests.

In order to handle the number of responses expected from field personnel taking advantage of the needs survey, a collection of prepackaged searches was prepared. These packages were then taken off the shelf and made available to the client either directly or through the school librarian. Further individualization of RUP response to a partucular client was provided as needed through personnel follow-up, a special information package, and so forth.

One Education Extension Agent was assigned the task of maintaining a log to record returned needs survey forms and to keep a record of the status of these requests. This log was posted in the RIC office for all staff members, including the respective EEA's, to "track" each respondent's request from date initiated to completion of request. (See Appendix B)

Additionally, an "information voucher", in the form of a follow-up memorandum to the client was also developed. (See Appendix C) A copy of this voucher was sent to the client stating

the RUP response to his request. Occasionally it was necessary to secure a missing piece of information, and the voucher was designed to be used to accomplish this also. The client was instructed to present his voucher to the librarian in return for materials or services. PREP materials and other selected documents were regularly sent to the school libraries and a client was sometimes referred to these on the above mentioned voucher. If appropriate, materials were sent directly to the client with the voucher, which became his record of the response. A carbon copy of the voucher was attached to the request form prepared for each client to provide a complete in-house record of the description of the request.

Multiple requests for the same information package in each school were met by providing several sets of the packages to the library (one set for each 5 requestors). These resources became a part of the professional library in each school and thus the property of the school unless otherwise stated. Librarians were urged to establish a loan policy to ensure circulation of materials to the requestor.

The following in-house procedures were established for filling the Needs Survey requests:

a) Match "AREA OF INTEREST" topic with corresponding information package. Example: "Individualized Reading" is the topic of PREP Kit 16.

b) Identify "AREAS OF INTEREST" which are checked on the returned Needs Survey request. Example: If "slow learners" is checked, N-S Set 21 should be made available to the client.

c) On the needs survey information voucher (Appendix C) indicate the PREP Briefs which were mailed to the client. Also indicate which N-S sets should be requested at the client's library. Remember to make a carbon of the needs survey information voucher for RIC files!

d) Under "Other Comments" on the needs survey information voucher, include these directions: "Show this letter to your librarian so she can locate the information packages for you."

e) Mail needs survey information voucher with any indicated PREP Briefs to the client. Complete search request form for each client served. Attach carbon of the needs survey information voucher to the search request form.

f) Retain each Needs Survey Request file by school. Record progress of search on Needs Survey summary sheets.

g) Provide 1 N-S Set for each 5 requestors to librarian. Example: If 10 people from one school request "Drugs and Health," send 2 copies of N-S Set 32 to the librarian.

These additional procedures were established as guidelines to the information specialists in executing computer searches on the DIALOG information retrieval system to produce needs survey packages.

a) Identify ERIC Descriptors as suggested by the "Area of Interest" Items listed on the Needs Survey instrument. Do this off line.

b) While On-Line, SELECT the ERIC Descriptors and LIMIT each Set to "MAJ."

c) COMBINE the Majored Sets in the "And" operation.

d) LIMIT the resulting set to EJ; DISPLAY in Format 5 to check for relevant Documents; PRINT in Format 5.

e) LIMIT resulting set to ED/AVAIL/ and Accession Number range; (example: 42000-61000) DISPLAY in Format 5 to check for relevant documents; Print up to 25 RIE Abstracts in Format 5.

Results of this approach to Information Needs Survey were positive, as mentioned earlier.

Research on the approach to a Needs Survey began in early-mid March 1972 and culminated in June 1972 with the dissemination of the first Needs Survey to all target school personnel. One copy was sent to each of the 549 full time employees in those schools at that time. Of these, 77 responses (14%) were received to Needs Survey 1972. The 77 respondents made multiple requests numbering 479 or an average of 6.7 items per request. Only three requests were received under the "other" category.

As mentioned, Needs Survey 1972 was distributed in June 1972. Many responses were received within a few days while others arrived upon the reopening of school in the fall. It was learned later in the fall that five schools did not distribute the forms at all. This was probably due to the crush of business that is typical at the end and beginning of each school year. It also pointed out the need for more closely monitoring distribution of future surveys. Those five schools which did not distribute the form represented 199 potential respondents. If this number is subtracted from the survey population (549-199=330 or 23.3%) then the overall response

rate was actually higher than the 14% cited above.

The number of responses to specific interest areas identified on the needs survey and their rank are shown below:

Area of Interest	No. of Responses	Rank
1. Reading Difficulties and Learning Difficulties	37	1
2. Reading Development, Instruction, and Programs	23	9.5
3. Reading Diagnosis and Tests	30	5
4. Reading Comprehension and Skills	32	4
5. Reading Readiness	19	12
6. The Informal Reading Inventory	23	9.5
7. Vocabulary Skills and Vocabulary Development	35	2
8. Slow Learners	27	7.5
9. Correcting Reading Problems in the Classroom	33	3
10. Assessment of Achievement in Reading and Math	20	11
11. More Effective Instruction in Elementary School Mathematics	28	6.5
12. Grouping for Maximum Instructional Effectiveness	22	10
13. Individualized Reading	27	7.5
14. Team Teaching and Microteaching	5	17
15. Headstart Follow-Through Programs	8	15.3
16. Reinforcing Productive Classroom Behavior	25	8
17. Student Behavior and Behavior Modification	28	6.5
18. Drugs and Health	6	16
19. Parental-Community Involvement in the School	10	14
20. Career Development	4	18
21. Teacher Attitudes Toward the Disadvantaged	8	15.3
22. Values and Motivations of the Disadvantaged	13	13
23. Teacher Militancy and Teacher Morale	8	15.3
24. Bilingual Education	3	19

This particular approach to servicing information needs had proven to be effective as a means of eliciting a response from the field. It has demonstrated itself to be an effective means of reaching out directly to potential clients and drawing a response from those who may have a need for information. It should be considered an appropriate vehicle through which information resource centers may interact with the field. If one is considering implementing this type of Needs Survey approach, it is vitally important that there be the necessary personnel, information resources, retrieval capability, and so forth to support it. Many considerations and tradeoffs need to be weighed. For example, in the case of News Survey 1972, it was decided to prepare prepackaged materials as a response to requests for information. This worked well in most cases, although some teachers indicated that they preferred tailor-made responses. Where possible, this personalized service was actually provided.

Typically, when a request was received, materials were taken off the shelf at the RIC and mailed to the requester's school librarian with a note that so and so (usually several requestors) had requested these materials and would appear with a request. The requestor, in turn, was sent an "information voucher" with instructions to present the voucher to the librarian in return for loan of the material. This approach was taken in order to: 1) contribute to the professional library of each school, 2) enhance the professional role of the librarian as an information source for teachers in local schools, and 3) keep printing costs down by reducing the number of copies needed for distribution. As a rule of thumb, one set of materials was sent for each group (or part thereof) of five requests per school.

This approach has many merits in addition to the three mentioned above but, of course, has some limitations and disadvantages. Experience with Needs Survey 1972 revealed, among other things, that: 1) some clients preferred to have personalized responses to their requests, 2) some did not like to wait while the material they had requested was out on loan to another teacher at their school, 3) the form was brief and its construction limited the response to 24 items, although only three out of seventy-seven made requests in the section labeled "other." There was, also the observation that: 4) some librarians, because of their own very busy schedules found it difficult to assume still greater responsibilities, even though it meant that they also acquired something for their library. The fact that more disadvantages have been identified than advantages does not mean that they necessarily out-weighed the advantages. As a consequence, the experience gained from the Needs Survey 1972 was invaluable in our efforts to improve our Needs Survey 1973.

3. Needs Survey 1973 - Design, Implementation, and Results

A second needs survey for RUP was proposed in the Department's proposal for continuation submitted to the National Institute of Education (NIE) December 1, 1972. The target audience for this included the 16 target schools and additionally, the staff of the Center for Educational Advancement (CEA). A Grant Award Notice dated December 15, 1972 and received January 26, 1973 was forthcoming. A revised Grant Award Notice dated February 30, 1973 was later sent. Meanwhile, work on Needs Survey 1973 had already commenced and several versions of it had been developed, discussed, and either revised or rejected.

A letter to the RUP Project Officer at NIE was mailed March 5, 1973 by the RUP Project Director. Accompanying this letter were three items, including the Information Needs Request Form for Needs Survey 1973. These forms were submitted as a requirement of the Federal Reports Act as amended. Members of the NIE Dissemination Task Force reviewed these materials and a March 16, 1973 meeting was requested by the NIE Project Officer. Due to prior engagements, the Project Director and Project Coordinator were unable to attend this meeting and one of the RUP extension agents represented the project. Basically, additional documentation, written justification, and some suggested revisions were requested by the NIE Project Officer. A follow-up letter dated April 12, 1973 was sent to the NIE Project Officer containing requested supplementary input. On May 7, 1973 word was received by telephone from the NIE Project Officer that due to some changes in policy or application of policy, clearance was not required at this time under the Federal Reports Act.

The Needs Survey Forms had been sent to clerical services for duplication on April 20, 1973. Printed copies were received on May 15, 1973 and 518 copies were delivered to the target schools and the CEA by the extension agents in late May and early June. Return of completed forms was via school mail. Completion and return of the form was voluntary, in accord with an agreement with the Washington Teachers' Union.

The Information Needs Request Form (see Appendix D) consists of an introduction and three other parts, namely: 1) Personnel Identification, 2) Problem Identification, and 3) Product Identification. Respondents are asked to:

a) Provide their names and other selected personal information so that appropriate follow-up may take place.

b) Complete the problem identification section. This section was modeled after one of the approaches developed by Dr. William Paisley at the Stanford Institute of Communication Research in 1972. In this section the respondent was provided instructions on how to proceed, an example, a space to state the problem in the respondent's own words, and additional space to write in

selected terms or key words from three lists supplied on the form. These terms are grouped in three categories: process, subject area, and human variables. The latter helps to otherwise narrow and specify the written statement given by the respondent.

c) Identify the type of information they would prefer, e. g. bibliographies, research summaries, practical teacher oriented materials, etc.

The extension agent conducted a search to locate information related to the stated problem. The agent reviewed the materials collected by the search for relevance to the client's request. The client was consulted about delivery. Transmittal took place by mail, over the telephone and/or in person. Because of the value of establishing interpersonal contact between the agent and the client, the latter approach was used when possible.

Usually, within a week of the delivery of the material to the client, the extension agent made a follow-up telephone call or visit to ascertain the usefulness of the material and if he or she may be of additional help in restructuring or refining the original request, locating additional material, providing microfiche documents, loan a portable microfiche reader, or locate and photocopy a journal article, etc. User evaluation of the materials was sought through an existing instrument called Feedback.

Before the end of school on June 14, 1973 eight needs survey forms had been returned, three blank with no request. The low return rate for needs survey '73 is felt to be due to late distribution and the preoccupation of teachers with testing and final grading at that time of the year. Since there were so few responses, no analysis was made.

CHAPTER II

II. Building the Project Infrastructure - Selected Services and Outcomes

The underlying foundation of RUP includes many elements. The process of recruitment and training of extension agents has already been discussed, as has the orientation of school personnel and the needs survey. Other selected components of the project are described in this section.

The objectives listed below are relevant to building the project infrastructure:

- Build an awareness among target school teachers and other field personnel through personal contact with the teacher and special dissemination activities and services about the availability of research findings and how these may be utilized in their day to day teaching and related activities. (Objective 4)

- Locate usable information about innovative ideas, practices and products matched to user interests and needs by means of utilizing and building on the established central administrative research capabilities and resources of the Research Information Center. (Objective 5)

A. Linkage Functions and Extension Services

As envisaged in the original proposal, a small cadre of professional staff members were employed to act as a link between central research resources and field personnel. On-the-job training was provided by the RUP Project Coordinator.

Services of the Project and the "linker" (Educational Extension Agent) were directed to school principals, counselors, reading teachers, and librarians. According to the model, the librarian has a special role in the project as an "institutional gatekeeper." As a member of our target audience, the librarian can open the gate and admit information into the school. As a resident staff member she is available and accessible to the local school personnel and is expected to act in such a way as to bring research findings to the attention of other people at the consumer end of the information "pipeline." All target school librarians participated in a training program. The role of the librarian was more sharply defined and limited in this training session. It was focused on building 1) negotiation skills, i.e. those

skills needed to identify and describe a client's information needs, 2) a familiarity with the ERIC Thesaurus, Research In Education (RIE) and the Current Index to Journals in Education (CIJE), and 3) basic research and retrieval skills with which to perform manual searches and/or to show fellow teachers how to use these basic reference tools being placed in the target school libraries by the Project.

According to the model, all information requests in a target school were to be channeled through the librarian who either helped the client search for information in the above mentioned references or referred him to the EEA. The EEA was expected to visit each school at least every two weeks and was considered to be on call each work day. In practice, some librarians fulfilled the important role very well despite numerous constraints, including limitations on the librarian's time because of workload, delays in receiving project materials, professionalism of teachers, and so forth.

In practice, local school teachers sometimes called the EEA directly for service. This was neither encouraged nor discouraged and service was provided. It was felt, however, by the EEA's that the librarians' emerging role, despite various limitations, was a viable one. It was also felt that other types of gatekeepers in the schools could be identified and utilized in addition to the librarian. Suggestions relative to this topic were sought in interviews conducted with target school principals. In addition to the librarian, other contacts suggested included counselors, subject matter specialists, grade level chairmen, resource teachers, other teachers, community coordinators, and members of the PTA, local Advisory Councils, or the community.

Experience seemed to indicate that the following minimal services could be provided by the gatekeepers in their schools:

1. Assist other teachers in problem statement by properly completing a search request form;

2. Act as a channel for the flow of requests to the Extension Agent and as a personal contact in the school for the dissemination of information on innovative educational practices.

According to the model developed by the RUP Project, the EEA provided the following services to target school personnel:

1. Accepting and responding to information requests negotiated and transmitted by the school librarian;

2. Accepting direct requests from clients and assisting in question negotiation or problem statement;

3. Performing manual and computer searches of ERIC and non-ERIC materials for information or solutions to problems. Very frequently, the initial package developed consisted of computer generated CIJE and ERIC abstracts;

4. Preparing a personalized package of computer generated abstracts for the client;

5. Screening, analyzing and synthesizing information retrieved and either transmitting directly to the client or through the librarian, depending on how the request originated. The EEA endeavored to review the content of the package directly with the client. Expecially good document abstracts, in the opinion of the EEA, were highlighted and so designated;

6. Providing supplemental information or materials as needed (including photocopies of journal articles), arranging inter-library loans, reproducing complete ERIC documents on microfiche, and making available portable microfiche readers. Return of computer generated abstracts and reproduced microfiche was not requested. Other materials were loaned usually for a two week period;

7. Preparing as a spinoff of the transformation process, resource packages on selected topics. Packages to be developed were determined by repeat requests from field personnel. They became "off-the-shelf materials" available immediately upon request;

8. Assisting target school librarians in instructing interested field personnel in how to use ERIC and how to conduct ERIC searches;

9. Fostering awareness of project resources and services through orientation sessions and other activities;

10. Disseminating innovative ideas, practices and products through the preparation of Research News, the project newsletter, through audio-visual displays such as the NCEC Educational Products Mini-Kits and by making PREP materials available.

Other services were provided by the EEA and still more will emerge in the future. The above services were identified for the purpose of clarifying and updating how the EEA served the client, with whom he interacted, and what services he rendered.

The linkage services of the Educational Extension Agent assigned to the Center for Educational Advancement followed the original model as modified by project experience. As described in the Operational Handbook of the CEA, the actual target population included participants

from four junior high schools and four feeder schools for each -- a total of twenty schools. One extension agent was designated for the CEA. The service strategy consisted mainly of providing linkage services to CEA staff members in the planning and development of programs. CEA Target Schools were not identified until late in the RUP Project and, therefore, did not receive information services directly from the EEA.

B. The Project Newsletter

The development of a newsletter was an item discussed in early RUP staff meetings in 1971. The Project Coordinator proposed to revive a newsletter called Research News, which had been first suggested in August 1969. The first issue had been prepared at that time but had never been disseminated when it was decided that a lack of resources would prevent maintaining publication.

Building on the experience of this earlier newsletter, an improved Research News was developed as a research and dissemination service for the target schools and indeed for the entire school system. Designated to bridge the gap between research knowledge and educational practice for busy educators, Research News offered condensed items of interest and summaries of research in the field of education.

Four issues were disseminated beginning in fall 1972. Issue number one dealt with the vital link between curriculum development and educational research, ERIC as a resource, and the availability of ERIC information services in the D. C. Schools. The second issue highlighted a particular ERIC document uncovered in the process of analyzing a search done for a client. This discovery led to its being featured in this newsletter and its acquisition for the RIC library. Issue number three focused on behavioral objectives, comments and suggestions to educational consumers buying commercially available materials, and advice from the EPIE Institute. The last issue disseminated during the project period, issue four, discussed the extension agent program as a model for dissemination of information in Washington, D. C. Another article announced the coming of the second information needs survey.

Each newsletter was brief, consisting of one sheet of colored paper (yellow) with a printed single spaced text on one side only. A distinctive masthead was designed and used throughout. In addition to the space allotted for one feature article, a second item was usually included concerning a service such as a printed bibliography on the featured topic available upon request, or a selected fact or statistic of interest to the reader. Copies of the newsletter were distributed to each teacher in the sixteen participating target schools. It was felt that the project newsletter contributed directly to building awareness of project goals and served well as a vehicle for communicating information on innovative ideas and practices to the field. Copies of the newsletters are reproduced in Appendices E, F, G, and H.

C. Microfiche and Microfiche Services

Under project funds, a diazo microfiche reproduction unit was purchased, along with a number of portable microfiche readers. The purpose of these units was to enable RIC and Project personnel to make full text documents of relevant materials immediately available to field personnel. These technological devices did, in fact, prove to be very important and effective in helping to bridge the geographical gap between the educational practitioner and the resource file.

EEA's demonstrated use of microfiche readers and discussed the availability of microfiche reproduction to individuals and small groups in the target schools. Between five and six hundred sheets of diazo microfiche were used during the year and a half of the project period in which the EEA's were on board and active.

Some problems with the use of portable microfiche readers were reported by clients due largely to a certain inconvenience of the particular microfiche reader. These readers were bought sight unseen following the increase in price of a more desirable reader. They did have a number of advantageous characteristics, including reasonable price, portability, inexpensive replacement parts, and they had no motor. The image was cast on a white card which could be placed flat on a desk top and could also be adjusted to display on a wall screen. The image was not viewed on a "rear projected" screen as is typical of most readers. Individuals who have difficulty with the eyestrain caused by the glare from some of the standard readers might find this advantageous.

The RUP staff found the ammonia processing unit used for fiche to fiche reproduction adequate. Had slightly more equipment funds been available, a thermal unit would have been purchased. Extreme caution in handling 20° Baume ammonia used for development is advisable. Adequate ventilation is also an important factor.

To encourage the awareness and use of microfiche and to streamline and personalize the computer package given to clients, new cover sheets were developed. The cover page was designed so as to identify the client's name and the title or subject of the search. It also, of course, identified the package as a product of the RIC. The second page outlined, step by step, the procedure of using the annotations and abstracts. Clients were informed through line drawings and in narrative fashion of the availability of complete ERIC documents on microfiche and of microfiche readers for loan.

For informational and referral purposes, a Directory of ERIC Document Collections in the Washington, D.C., Metropolitan Area was

prepared. A copy of the directory is contained in the Interim Report (ED 069 281). Completed in September 1972, this directory includes information on the currency and completeness of RIE microfiche files and indexes for CIJE and RIE; the number and availability of readers and reader-printers; user population and availability of the collection, hours and days open; telephone number of contact person, and exact location of ERIC collections of institutions in Washington, D.C. and the metropolitan areas of Virginia and Maryland. This directory has proved to be a valuable reference tool in helping clients when, for some reason, it was more convenient for them to utilize ERIC resources elsewhere.

D. Development of a "Document Retrieval System"

DRS is the acronym used to identify the Document Retrieval System. DRS was intended to improve the storage and retrieval system of the RIC, so that the RIC could maintain its services to the increasing demands of teachers, counselors, principals, and other administrative and field personnel involved in the RUP while maintaining present staffing patterns. DRS was designed to handle report type documents in a manner compatible with ERIC. Initial operation was to be manual, with features adaptable to later automation.

Knowledge and skills needed to enable RIC staff to plan, design, and implement such a system were a direct outgrowth of two Civil Service Commission Training sessions attended in April 1972 and described in Section I. B. under "Advancing Professional Knowledge and Skills of RUP Personnel." One seminar focused on the use of automated data processing in technical information systems, while the other concentrated on indexing and abstracting.

Both of these seminars were informative and helpful in planning and implementing DRS. Work on DRS coincided with an assignment from the Superintendent's Office to the Project Coordinator and others to develop and implement an automated information retrieval system for reports and documents produced for his office. A series of meetings took place, which included representatives of the RIC, the Department of Automated Information Systems, and the Superintendent's Office.

DRS was designed to remedy a weakness of all single term indexing and retrieval systems, namely that the indexer is limited to a single identifying term to describe a document. Clearly, the majority of works being published cover a variety of topics, and to assign a single retrieval term to such a document restricts the probability of retrieval. DRS is a pre- and post-coordinating information system. Each document is indexed under a number of terms, increasing the probability of retrieval. A document may be recalled through the pairing of terms in post-coordinate searching. The chief advantage of a coordinate indexing system lies in the retrieval of documents. A main disadvantage is the amount of time necessary to process documents.

In an actual search of DRS, subject terms are selected from a list of candidate terms and paired. Accession numbers are scanned to reveal matches. DRS documents are retrieved by accession number instead of by title, just as in the ERIC system. A searcher is first referred to a document abstract, then to the document bearing the appropriate accession number.

The components of the DRS system are defined and described below:

1. TITLE CARDS. This is a set of 3 x 5 cards which contains the titles of all DRS documents. Title cards are maintained in alphabetical order. Their chief use is to provide a reference to processed documents. Documents may be retrieved by exact title and the list helps prevent duplication of processing. In addition to the title, each title card contains the accession number of the document. These title cards can also be used in the traditional card catalog for title searches.

2. LIST OF TERMS. This is an alphabetical list of indexing terms, synthesized from the Thesaurus of ERIC descriptors, in order to save the indexer time. Terms may be added to the system at any time if it is felt that there is a need for a specific term and existing terms are not sufficient. Indexing terms are also found on the SCAN MATCH CARDS.

3. SCAN MATCH CARDS. This consists of a set of 5 x 8 cards, each of which has a space for one indexing term, ten columns each headed by a digit 0-9 and 25 rows. Document accession numbers are recorded by column according to the last digit of the accession number. For example, document 00123 is recorded in the column headed by the digit 3. (see Appendix I)

4. DOCUMENT RESUME FORM. This is a form which has been adapted from the ERIC system. There are several fields in the resume form which are used only with special documents as described later. Regular bibliographic fields or items are always completed. (see Appendix J)

The procedures for indexing and abstracting follow:

1. ACCESSION NUMBER. Accession numbers are assigned to each document as the first step in indexing. DRS uses a five digit number. The accession number is recorded in the upper right corner of the document, and in field 1 of the document resume form.

2. DOCUMENT RESUME FORM FIELDS. Fields 2, 5, 6, 7, 15, 16, 17 are reserved for the Superintendent's documents only. All other fields are completed for all documents.

3. INDEXING-CATALOGING. Regular bibliographic fields are completed. Field 12, Subject Area, is a single term reference. This is a hierarchical reference which corresponds to the "Subject" area in a standard card catalog. Indexing terms are written in field 13. Each term should be set off from the others with a slash (/).

4. ASSIGNING TERMS. Standard ERIC clearinghouse guidelines suggest writing a list of candidate terms which describe the document. Then the source authority is consulted to determine the correct descriptors. Example: the candidate term Per Pupil Expenditure is listed as Expenditure Per Student in the Thesaurus. Expenditure Per Student is the correct indexing term. Indexing terms are usually listed in alphabetical order in field 13.

5. WRITING THE ABSTRACT. The abstract should be written with the purpose of informing the eventual user. The abstract is used by the researcher (or reader) to determine the relative value of a particular document. Source of information for writing the abstract are the summary, preface, or conclusion, or the document may have an abstract which can be abridged.

6. RECORDING. Accession numbers are recorded on each index term card, (also called the SCAN MATCH CARD). Referring to our example of "Expenditure Per Student," if this term is assigned to document 00071, the accession number 00071 will be typed in column 1 of the scan match card labeled EXPENDITURE PER STUDENT. The title of the document is then typed on a new 3 x 5 title card. Initial articles (a, an, the, some) are placed at the end of the title. Each title card is inserted in alphabetical order by first key word.

7. SAMPLE SEARCH. A request is made on reading programs and academic achievement. These terms also happen to be the exact descriptors. Two scan match cards are pulled: READING PROGRAMS and ACADEMIC ACHIEVTMENT. The columns are scanned for matching accession numbers. Two matches are found: 00053 and 00047. The document resumes for these are checked and those documents may be pulled if judged relevant to the request.

The DRS system has great potential. Already more than fifty documents have been fully processed into the system. The important thing is that the plan and its implementation have been realized. Continued support will ensure its continuation.

E. Reorganization of In-House Information Files

The General Research File (GRF) is the name for the Center's vertical files of fugitive materials. The GRF is a major resource of the Research Information Center. Physically it consists of 12 file cabinets or 60 drawers of materials, organized under approximately 400 subject terms arranged alphabetically, complete with an index of terms for cross indexing. The old GRF index had increased to over forty pages and was growing. As more staff members came into the RUP project, difficulty was experienced in retrieving, returning, and filing new materials in the GRF. Finally, it was decided to overcome these difficulties by adopting a more systematic and efficient indexing system.

The GRF is an example of a single term index system. Index terms must represent the contents of the document in a way that will provide for the future retrieval of information. The indexer assigns to a document that single subject heading that he feels best represents the content. Previously, the RIC had developed its own subject heading list but it was not a controlled vocabulary list. Under the plan of reorganization, the Thesaurus of ERIC Descriptors was adopted as the single legitimate source of index terms used in the storage and retrieval system. Consequently, index terms can be carefully regulated regarding spelling and grammatical form by utilizing this thesaurus as a standard authority.

Essentially, the new indexing system adopted utilizes a two-level hierarchy using ERIC Descriptor Groups and ERIC Descriptors. The ERIC classification scheme utilizes 52 descriptor groups of broad terms, each with a three-digit code (010 through 520). To provide an index or key to the Descriptor Groups, the three digit code is used. This code number appears two spaces to the right of each main descriptor in the Descriptor Listing section of the ERIC Thesaurus.

An overview will help. As mentioned earlier, physically the GRF consists of 12 file cabinets. Each file drawer is assigned a descriptor group number(s) and labeled, for example, "010-ABILITIES" or simply "010". All materials conceptually related to ABILITIES are filed within that drawer(s) alphabetically by descriptor. For example, in the drawer labeled "010" one would find file dividers labeled with these descriptor headings: "Academic Achievement," "Academic Failure "Intelligence," "Readiness," "Reading Skills," "Student Ability," and so forth. Behind each of these descriptor headings is to be found the actual file folders containing materials such as articles, brochures, monographs, and so forth on the particular topic. Each file folder is marked with the descriptor group number followed by a slash (/), followed by the appropriate descriptor term. Therefore, material on "student ability" would be labeled "010/STUDENT ABILITY." Each item in this file folder is also labeled in the same way for storage and retrieval purposes. The folder tab may be labeled with the title of the document contained therein or with some other indicatio of its general contents.

As materials are processed for filing the indexer may assign a "candidate term" to the material. A candidate term is a prospective term which may or may not be a "legitimate descriptor." Assigning a candidate term to a document is only the preliminary step in indexing. Candidate terms may be suggested by the title of a document, a subtitle, preface, foreword, abstract, or summary. Source names, for example, Departments of Research and Evaluation, are not relied on for candidate terms. Tables of Contents are also generally avoided because they are usually too specific for single term indexing.

The indexer selects several candidate terms and then consults the Thesaurus to determine if the candidate terms are valid descriptors. Familiarity with the Thesaurus is an invaluable aid to suggesting candidate terms. Experience has shown that the title of a document is often the single most valuable source of candidate terms. As a shortcut to indexing, drop all function words from the title or subtitle (a, an, and, the, of, some, selected, etc.). Key words are frequently nouns (such as schools, teachers, taxes, salaries, etc.) modified by non-key words (such as elementary, urban, classified, etc.). Following are several detailed examples:

1. The title of a document is The Education Professions Part II - Differentiated Staffing: A State of the Art Report. Key words are "Differentiated Staffing" and "Staffing." "Education Professions" and "Report" are not key words because in this example they are too broad. The indexer consults the Thesaurus and finds "Differentiated Staffing, use DIFFERENTIATED STAFFS." Upon checking the word "Staffing" the indexer finds "Staff (Instructional)" use INSTRUCTIONAL STAFF. Next to each of these descriptors appears the three digit code 380 which is the 38th descriptor group concerned with personnel and groups.

   At this point the indexer is faced with a decision, that is, which of these two descriptors to select. An aid to making this decision is the General Reference File Thesaurus developed in-house for use by the indexer for input or by the retriever for output. This file consists of 5 x 8 cards. Each card is labeled with a descriptor group number. Continuing with our example, the indexer would turn to the card labeled "380/PERSONNEL AND GROUPS." Listed alphabetically on this card are those few descriptors out of the many in the full Thesaurus which are authorized for use in the GRF at any particular time. Upon checking this card, the indexer finds the term DIFFERENTIATED STAFFS is used but not INSTRUCTIONAL STAFF. The final decision on selection is in favor of the former descriptor. The indexer then places in the upper right hand side of the document cover the notation 380/ DIFFERENTIATED STAFFS. The indexing task on this document is completed and the document may be filed. New descriptors may be authorized for the GRF Thesaurus if needed.

2. The document title is Urban Teachers Salaries. The key word is "salaries," while non-key words include "urban teachers." Upon checking the ERIC Thesaurus the indexer notes the descriptors SALARIES and TEACHER SALARIES. Each of these terms is followed by the three digit code 220 which is the 22nd descriptor group concerned with finance. Once again, the indexer refers to the GRF Thesaurus. Turning to the 5 x 8 card labeled 220/FINANCE, the indexer finds the descriptor SALARIES but not TEACHER SALARIES. Therefore, the indexer would select and label the document 220/SALARIES and place it in the file.

3. An Evaluation of the XYZ Reading Program is the name of the next document. The key word is "reading program." "Evaluation" is not a key word because this example is too broad. Upon consulting the ERIC Thesaurus, the indexer finds the descriptor plus the correct spelling READING PROGRAMS along with the descriptor code number 440. Referring to the GRF Thesaurus, the indexer finds this item listed. He then labels the document and files it.

These examples are intended to illustrate some of the many varied problems that often confront the indexer as he goes about his work. Hopefully, they offer some suggestions on how to approach the task of indexing and some tools which are useful in performing this important function. Several months of experience with this new system has proved its value to the staff, making their task of serving clients more efficient and more trouble free.

F. Computer Retrieval Capabilities

Not funded under the project grant but related to it insofar as information service capability is concerned was the availability to RIC of the DIALOG on-line computer retrieval system of Lockheed Missiles and Space Company. Made available on an experimental basis originally by the U. S. Office of Education and later the National Institute of Education, the terminal was installed in June 1971 and was utilized by RIC and RUP personnel through July 1973. This advanced retrieval system replaced the much slower and more cumbersome QUERY batch mode system used from the spring of 1970 until June 1971. In return for the availability of DIALOG, the RIC produced various usage reports for USOE, hosted visitors from around the nation and foreign countries, and participated in periodic ERIC On-Line Users Conferences where various topics, issues, and policies related to terminal usage and network development were discussed.

Continuous efforts were made by Center and Project staff to improve search performance and overall terminal productivity. One of the Project EDA's spent part of his vacation in California. While there on June 8, 1972 he visited a DIALOG representative at Lockheed Palo Alto Research Laboratory, Palo Alto, California after an earlier visit to the western offices of System Development Corporation (SDC).

The purpose of these meetings was to compare DIALOG and ORBIT II capabilities and discuss the latest search strategies.

Upon his return, the results of these visits were discussed at a RUP staff meeting on June 12. Attention was focused on improving RIC staff use of DIALOG search capability. Conference calls were made over the following days to the Lockheed representative to clarify some points, to Sharon Jewell, ERIC/CLIS to discuss her search strategy, and to Bob Donati of Lockheed to ask for a briefing on improving search performance.

Bob Donati of Lockheed's New York office was invited to the RIC on June 16 and presented a three hour refresher course to RUP staff members on DIALOG usage. He touched on three concerns of ours; namely, relevance, exhaustiveness, and speed. This course was most useful and resulted in a significant change in our search strategy and in our operators' utilizing more of DIALOG's search capabilities. It was felt that improved efficiency would result in better quality of information resources.

In late 1972 and early 1973, the staff worked on a project to measure the productivity of each DIALOG terminal operator. This study had a two-fold thrust: identification of operator styles and standardization of some operating procedures. Without going into details of the study, it can be stated that the DIALOG Operator Productivity Evaluation revealed quantitatively what had before been only suspected. There was a great variation in searching styles among the staff members. For example, one searcher ran single concept searches ("everything on staffing") which yielded very high print counts. Another searcher selected an average of 22 sets per search--the high; while another searcher was content to use an average of 10 sets per search. The average elapsed time (the time from beginning to ending a search) ranged from 38.9 to 69.21 minutes for individual searchers. Monthly fluctuations in terminal usage varied greatly, depending on which individual accounted for the bulk of computer time. These findings have obvious implications relative to cost of terminal operations, training of operators, and access to the terminal by staff members and others.

While it was and remained a policy at RUP to encourage each staff member to perform his or her own computer searching, computer usage standards were imposed as an outcome of this study. A goal was set to reduce the total number of citations or abstracts printed. Since Lockheed charges for each abstract requested, this would tend to reduce costs. Decreasing total elapsed time through prestructuring searches as much as possible was also set as an objective because of the cost of computer time per hour. Finally, it was decided to limit the number of sets per search while maintaining relevance of retrieved items. This could be done by reducing the number of descriptors used. Stringing commands and selecting E and R numbers resulted in considerable saving of time. More on the procedures adopted by the RIC for on-line DIALOG searching may be found in Appendix K.

G. ERIC Materials provided to Target Schools

Plans outlined in the original grant proposal included provisions to each target school library of certain specified materials including ERIC and CIJE indexes. Processing of orders by the business office was halted due to a temporary freeze on spending, which included this project. Consequently, vendors were not requested to supply materials until late November and December 1971.

The first items ordered arrived in late April and early May 1972. These included the 1969 and 1970 cummulative index to CIJE and the annual index to RIE. Difficulty was experienced in securing back issues of RIE from the Government Printing Office (GPO), especially back ordered monthly copies. PREP subscriptions were cancelled by GPO and a complimentary copy provided the State Education Agency was used to reproduce adequate copies. A notice was received with information that CCM Information Corporation was permanently out of stock of ERIC Thesauri, of which 34 copies had been ordered. A newer edition was published later and the order filled.

As a result of these delays in receiving needed materials, the original intent of having the librarians and EEA's train teachers to do manual searches using the thesaurus and RIE and CIJE indexes had to be dropped. Orienting librarians in the use of these materials was one of the major purposes of the training provided by R.I.S.E. on February 2 and 3, 1972. The other objective was to assist in the personal negotiation process, and this too, because of a lack of key resources, could not be accomplished. Consequently the librarian did not have the active role in question negotiation using the thesauri and in training teachers in ERIC search and retrieval techniques as had been anticipated. The EEA's, therefore, had to assume responsibility for ERIC negotiation and training in search techniques as originally proposed; however, the target school librarian continued to take and channel requests through the EEA to the Research Information Center. PREP, RUP and available ERIC materials were disseminated to the librarian when finally available. Additionally, the librarian assumed an expanded linkage role once prepackaged searches developed for the first Needs Survey were sent to the librarian for loan to target school teachers. These materials helped to build a small but worthwhile classroom oriented body of information in the school.

Based on information derived from observation and from the survey of the target school principals, it may be said that the PREP and the RIC and CIJE indexes received moderate use. Considering the problems faced in acquiring them in the first palce, this could be said to be a favorable result. There seems little doubt, however, that greater usage could be ensured with proper delivery of ordered materials and timely training in their use. As a result of the problems with the indices, greater reliance was placed on the EEA as an interpersonal vehicle to link him with information resources rather than depending on the impersonality of the index.

CHAPTER III

III. Project Evaluation

This section of the report deals with those efforts which constitute the formal evaluation components. The evaluation consists of two parts: 1) documentation of information utilization through case studies, and 2) a detailed analysis of school principals in the project.

The objective listed below relates to the evaluation of the project:

- Determine the effectiveness of the program in the process of matching research information to the needs of the target school personnel. Effectiveness will be determined by evaluation of programs in the target schools which have been identified as having been initiated or developed as a result of either direct or indirect contributions of this program. (Objective 6)

A. Information Utilization Documentation ... The Case Study Approach

Considerable time and effort was spent in the search of a suitable manner to document information utilization. This included a review of the literature available in ERIC, input from staff of the Deparements of Research and Evaluation and RUP who were experienced in the case study approach as used, for example, in psychology, and discussions with various members of the NCEC/NIE staff and the Pilot States Project. In line with the experimental nature of the project and in view of some worthwhile findings that resulted from this search, it was decided to pilot test the development of a modified case study approach called Information Utilization Documentation (IUD). The selection of cases for documentation was left up to the individual extension agent who performed the necessary follow-up with the client to document the utilization process.

The case studies were developed by the extension agents themselves. Two items of possible interest to Extension Agents in other projects were developed in addition to the case studies. These are:

1) "A Guide to Preparing Information Utilization Documentation ... The Case Study approach" found in Appendix L, and 2) "A Checklist for the Extension Agent Preparing Information Utilization Documentation" found in Appendix M.

Eleven case studies are included in this report. Cases selected by the extension agent are from different target schools. The cases reported are representative of the type of clientele served and include two principals, two reading specialists, one math resource teacher, two librarians, two regular elementary teachers, one special education teacher, and a "program" case study on the Center for Educational Advancement. Clients indicated a variety of intended purposes of utilization, including proposal development, classroom use, demonstration and staff development, advanced studies, program planning, and others. Each of the cases documented had used project services more than one time. These individuals demonstrate the practical manner and diverse ways in which concerned educators in the school system, with the aid of the extension agent program, translated educational research into programs and activities to meet the needs of students and school personnel.

Case Study No. 1
Proposal Development for Training Community Aides to Work in An Open Space School

The requester in this case was the principal of a small inner-city elementary school with a staff of 11 teachers and 330 students. This school was an ESEA Title I school during the project period. Coincidentally, this client was the first requester of the Research Utilization Project. The principal was a repeat user who strongly recommended the project to her faculty members. The request documented in this IUD case study was motivated by an earlier loan of materials on open plan or open space schools. This topic was "Training Community Aides for Open Plan Schools." The requester had previously contacted the Federal Program Unit of the D. C. Public Schools to determine the possibility of obtaining funding for a training program.

This request was initiated in response to community interest in participating as paraprofessional aides in the new open plan school. The extension agent was contacted to conduct a review of the literature for the funding proposal as is recommended by the Title III Office. The principal was also referred by the extension agent to the Title III evaluator in the Division of Evaluation for assistance in writing her proposal.

A computer search of the ERIC file was performed and a bibliography of 46 items was generated. Prep Kit 12, "Paraprofessional School Aides," and "Title III Resource Facilities--Open Space" were loaned to the client. Printouts and other materials were delivered by the extension agent three working days after initial contact. The principal requested microfiche

duplication after reviewing the printouts. The client was later visited by this extension agent to determine the outcome of the proposal. The principal reported that the proposal had been funded for $97,000 through ESEA, Title III. The requester then began to prepare materials to train 14 community aides to work in the new open plan school. This client requested an additional search on designing instructional programs for dissemination to her faculty in the coming year.

The principal's comment: "I was really glad to have this service available. We couldn't have gotten the funding without your review of the literature."

Case Study No. 2
Report Development for Decision Making Related to Heterogeneous Grouping

The client in this case study was principal of a District of Columbia public elementary school. The client had taught in the school system prior to assuming the duties of principal, which position she has held for several years.

The school is located in an area of the city which has the largest Spanish-speaking population in the District of Columbia. The area is heavily Black and Spanish, but also possesses a significant number of Caucasians. During the project year, the school had an enrollment which exceeded 800 and a faculty in excess of 30. This particular school is part of the Model Schools Division in the Public School System.

The requester was a repeat user. Previous topics searched for this client included: 1) dealing with aggressive behavior; 2) discipline as an aspect of school morale and character; 3) dress code for students; 4) corporal punishment and the law; 5) advantages and disadvantages of homogenous and heterogeneous groupings, and 6) motivating disadvantaged youth.

The majority of the search requests for this client were conducted through a computerized search of the ERIC files. Some searches involved a combination of manual and computerized interrogation of the ERIC data base. The search involving the greatest expenditure of time involved researching the advantages and disadvantages of homogenous and heterogeneous groupings in elementary schools. The extension agent received that request while visiting the client's school. The principal expressed interest in the topic because the question of ability grouping had been expressed as a top priority item for investigation for the Model Schools Division. When the extension agent received the computer printout, he analyzed the contents and selected those abstracts which he considered highly relevant to the client's expressed area of interest. The agent then retrieved the microfiche documents and reproduced them. Next, he called to make an appointment with the client, and when it was confirmed, went to the school with a portable reader, taking along the reproduced microfiche and the printout package. Upon arriving at the school,

the agent informed the librarian of the completion of the search request for the principal, who had initially channeled her request through the librarian. Then, he proceeded to demonstrate to the principal how to use the microfiche and microfiche reader.

The extension agent reminded her that if any further assistance was desired, she could call him. Follow-up revealed that a "Report on Heterogeneous Grouping" had been produced as a part of the Superintendent's Academic Achievement Project for review by the administrative staff of the Model Schools Division. The client was chairperson for the committee of this group, and she invited the extension agent to participate with them in a symposium on the subject. In conjunction with her efforts in the Model Schools Division, a booklet with photographs was developed depicting the activities centered around ability grouping at this school.

Other search requests were filled using PREP materials, materials from the Center's General Reference File, and by computerized searches of the ERIC data base, which produced relevant document and journal abstracts. The client indicated that she found the materials concerned with improving teacher-student-parent relationship particularly useful in an effort to improve the school's image with the community. In conclusion, the extension agent recently asked the client what caused her to continue using project services. The client said: "You all have been so prompt in answering my request and I like the way you follow-up requests."

Case Study No. 3
Planning a Program For Parental Involvement

The client in this case study was a reading specialist and was completing requirements for the Doctor's degree at a local University. This teacher's school was one of the largest elementary schools in the public school system and is located in a densely populated neighborhood. Of the approximately fourteen hundred students enrolled in the school, all but one were Black.

This teacher became aware of RIC/RUP services through the orientation sessions presented by the extension agent at the beginning of the project at a general faculty meeting. The client commented: "It didn't really begin to occur to me what RUP was all about until I started receiving flyers about your project in my mail, and I decided to give it a try."

When the client approached the extension agent with a specific request she was in the process of trying to develop and put into operation a program of greater parent participation in school activities. She was interested in identifying exemplary projects of this nature. By conducting a manual search of Research in Education and Current Index to Journals in Education, the extension agent was able to identify several exemplary projects involving the use of parents as school aides in elementary schools.

Since the documents were on microfiche, he reproduced them and arranged a loan of a protable reader. The client was so interested in a few of the documents that she purchased them from the ERIC Document Reproduction Service (EDRS). In a later follow-up conversation between the extension agent and the client in reference to the development of her parental involvement project, she commented: "I was really shocked when as many as fifty parents showed up at the community meeting to participate in development of the project." She further stated: "Many parents wanted to know where this had been tried before, and if there had been any success, and I was well read on the subject because of the materials RUP provided me; therefore, I could answer their questions."

Case Study No. 4
Keeping Up To Date On Developments in Education

The client in this case study was a very experienced classroom teacher, a reading specialist and chairperson of the Reading Mobilization Team at her school. The extension agent commented that her classroom was always inviting because of the many teacher-developed and student-developed learning aids.

The requester's school is located in one of Washington's most affluent areas and the population of the surrounding area is predominantly white, middle class, and well educated. It is in the second highest median income area in the District of Columbia. The librarian, who was in the position when the project started, has since retired, but her idea of a pet-lending library continued as a part of the library program after her departure. The school's principal at the beginning of the project has since retired. The new principal came from a school situated in a contrasting socio-economic setting.

In a recent follow-up conducted by the extension agent on her requests for materials and information dealing with the concept of open education, she stated: "The group I was working with on open education concepts was voluntary and had no official function; a group of teachers simply got together and decided we needed to know more about this concept, since it is now official D. C. Board of Education policy." The extension agent loaned her documents on microfiche, a portable reader, and a prepared package on "open space" and "open plan schools." They agreed that the most significant document was an ERIC report dealing with retraining traditional teachers to adjust to open plan schools and the open education setting. Project services, in this instance, came to be used following a lively discussion among teachers in the staff lounge, which prompted a desire to become better informed about the state of the art. The client further added: "When I asked you for some information on learning centers, you helped me, so I figured I would try again ---- it was most useful and practical."

Case Study No. 5
Educational Games - A Case Study of Classroom Innovation

This requester is a Math Resource Teacher in an elementary school. She holds a Master's degree in mathematics and is a former high school math teacher. The school where she teaches is a small inner-city school with a resident staff of 14 teachers with 300 students. Her school is a Title I School which hosts teams of pupil personnel workers, special resource teachers, and guidance personnel.

The request which is documented herein was for microfiche reproduction. The client had conducted a manual search of the ERIC materials placed in the school library through the Research Utilization Project. The request for microfiche reproduction was received by mail. The microfiche were needed for a staff development demonstration.

The microfiche reproduction unit was used to reproduce sixteen documents. Total staff time was 45 minutes (average for this type of service.) The microfiche and a portable reader were delivered to the client the same day the request was received. Use of the portable reader was demonstrated at the time of delivery.

The requester was visited approximately one month after the delivery of materials. She demonstrated several math games she had developed for her students utilizing principles which were stated in the documents that had been reproduced. The client reported high interest on the part of co-workers and students.

During that follow-up visit, the client requested information on copyright regulations for the purpose of possibly marketing certain games. This client later taught a workshop on math games through a volunteer staff development and learning exchange program which operates in the city.

In the words of this teacher, "I was surprised to find the ERIC materials in the library here. I had used ERIC when I was in school. The librarian told me about your project and gave me a request form to send in. Having the documents on microfiche really saved me time."

Case Study No. 6
Acquiring Knowledge On The Use of Media in Instruction

The client in this case study is an elementary school librarian and holds a Master's degree in Library Science. She is a former classroom teacher who has been a librarian in the D. C. Schools for over seven years. Her school is a large elementary school located in Northeast Washington. The staff consists of 40 teachers with 880 students. The school is the site for an in-service course offered for credit on preparing teachers to work in open space schools.

The request which is documented herein was initiated during an extension agent visit to the school. The topic was teaching through the use of media. The purpose was given as professional development for on the job application and advanced educational studies. The extension agent had been contacted earlier in the year by this client for information on the use of the video tape recorder in staff development and minilessons. This school has access to a VTR, and the librarian wished to familiarize hereself with VTR techniques.

A computer search was coded and run. Twenty-seven items were retrieved by the computer search. The printouts were reviewed and screened by the extension agent. One journal article on utilizing media in instruction was located in the in-house collection and was photocopied. The information package was delivered to the client for a turnaround time of five working days.

The requester reviewed the abstracts and later called in a request for microfiche and a portable reader. The information which was provided filled the immediate need for material to use in coursework. The client indicated that she also planned to disseminate VTR and media techniques to other teachers, fulfilling her role as media resource person in her school.

This requester stated: "What we've gotten was perfect. We got the portable reader when we wanted it, and were able to use it for extended periods of time. This was most helpful. The extension service was very flexible around our needs. I got the materials right when I needed them."

Case Study No. 7
Planning Library Services in An Open Plan School

This requester is a librarian in a small inner-city school. She holds an MA in Library Science and has participated in a staff development program for District of Columbia teachers. The client is an itinerant librarian traveling between two schools. Her schools are scheduled to consolidate and move into a new open plan school in the 1973-74 school year.

The request was initiated during a field visit to deliver materials to another staff member. The librarian mentioned at that time that her school was converting to an open plan next year. She requested a bibliography of all available ERIC materials on open plan schools and library facilities. The intended use of information was professional development and library facilities planning.

A preliminary manual search of in-house files revealed a dearth of good information on open plan libraries. Total search time was approximately 45 minutes. A computer search was selected as the primary resource due to the relative complexity of the request.

This computer search returned 26 items. The output was screened for relevance at the abstract level and was delivered to the client with a turnaround time of six working days. A computer generated bibliography of articles and documents on open plan schools was prepared to supplement in-house materials.

The client contacted this extension agent with a list of microfiche documents to be reproduced. The microfiche which were duplicated contained floor plans of open space libraries and bibliographies of other sources to consult. This information was utilized in planning library services for the coming school year.

This librarian said: "You know our school is moving into an open space building. I am concerned about how this will affect my library program. There was some good information in the printouts you gave me, but there doesn't seem to be that much in the ERIC system (on the topic of planning library services in Open Plan Schools)."

Case Study No. 8
Establishing a Reinforcement Schedule For a Reading Class

This client is a classroom teacher of grades 2 and 3 combined. At the time of this case study the client held a Bachelor's degree in Education and was completing requirements for a Master's degree at an area university. The school where she taught is a small elementary school located in far Northwest Washington. The staff consists of six teachers with 130 students.

The client had previously consulted the library at her university for information about the effects of reward schedules on the reading achievement of elementary school children. The client contacted the Research Information Center by telephone to request a computer search on her topic. The output of the original computer search was unsatisfactory. The extension agent was then contacted by mail using a Field Search Request form which was developed for clients in target schools. The purpose of the information request was two-fold: for immediate use in completing a course assignment, and the client was interested in applying research findings on reward to establish a reinforcement schedule in her reading class.

A second computer search was coded and executed. Retrieved items were viewed while on-line to insure relevance. Total search time including coding occupied 45 minutes. Printouts were mailed to the client for a turnaround time of three working days.

Thirty-two items were retrieved. All documents were reviewed to check relevance at the abstract level. One journal article was located and included with the printouts. The carbon copy of the printouts was used to create an information package on "Reward" for the in-house files. The client was contacted about one week after mailing printouts. Reason for contact was to check on the relevance of retrieved items. The client

expressed satisfaction with the results and wanted to know where the documents were located. The extension agent explained services of microfiche reproduction and the loan of portable readers to target clients. The client then requested six microfiche to be reproduced. In this case the client came in to pick up the microfiche and portable reader.

The client summed up her experience by saying: "I found some of the journal articles. What I needed were research studies on reward. All of that information was in the HEW (ERIC) reports. I will be able to use the information in my class ---- there's a volunteer who will be helping and I can share the information with her."

Case Study No. 9
Developing Classroom Learning Stations

The client in this case study is a young teacher at an elementary school in the southeastern section of Washington, D. C. She is pursuing her Master of Arts in teaching degree at Trinity College, where a graduate program in training teachers to work more effectively with inner city children is offered.

The client's school is one of the largest elementary schools in the District and is located in one of the most densely populated areas of the Nation's Capital. Its students are drawn from the lower socioeconomic levels of the city.

The client's information needs involved an examination of affective and cognitive learning processes at the preschool level. This teacher was interested in enhancing and promoting these learning processes through classroom learning stations which she wished to establish.

The extension agent manually searched Research In Education and the Current Index in Education to quickly and accurately identify some relevant documents. The agent was able to identify thirteen "good" documents from ERIC, all of which were available on microfiche. Duplicate microfiche documents were reproduced, and the agent called the client to make the necessary arrangements to demonstrate to her the use of a portable reader.

Difficulty was experienced in getting some journal articles because of the narrow and specialized nature of the topic but this was overcome with the assistance of the NEA library. This is one of many instances when other libraries were used to supplement the resources of the Research Information Center. The extension agent pointed out that teachers have often reported a preference for journal articles. The agent commented that this may be due to the length of an average article as compared to a report, plus their general availability and convenience of use.

The client in this study commented: "With the tremendous amount of sophisticated research to be read and applied in a classroom project of this nature, teachers like me in a large elementary school need all the assistance in this respect that we can get."

Case Study No. 10
Developing Children's Self Concept

The requester in this study is a special education teacher. This teacher had been a reading specialist before moving into this new speciality. She had been taking courses in special education and had received recognition for her work from the Special Education Department. This teacher was also in charge of the staff development program at the school. In relation to this, the extension agent reports that he demonstrated the Educational Products Mini-Kit developed by the National Center for Educational Advancement, USOE, at a staff development session at this school. The Mini-Kit is an audio-visual package consisting of filmstrips and cassette tapes which deals with a series of eight validated learning programs of interest to elementary school teachers.

The school is located in one of Washington's most heavily populated Spanish speaking areas and has a mixture of Spanish speaking, Black, and White children. A public library is close by, and it operates a program supportive of school activities. Many faculty members at this school used the ERIC materials supplied by RUP to the school library.

This teacher was concerned with developing a program to enhance the self-concept and self-image of some of the students in her school. She remembered a ten year old article in a journal on this topic and inquired if the extension agent could locate it for her. The extension agent conducted a computerized search of the ERIC data base and selected certain very relevant articles and documents from the abstracts. Area university libraries and the NEA library were contacted regarding availability of journal articles. Those journal articles available were photocopied and also sent to the client. Appropriate microfiche were also reproduced, and a loan of a portable reader was arranged. During the follow-up, it was learned that this teacher had devised a self-image program which she was using with some of her special education students.

This teacher's comments echoed those of many others not so documented, when she said: "EEA services are invaluable because of the hours of a teacher's work day; teachers very seldom have time to go to the public libraries, and searching takes so much time."

Case Study No. 11
Services to an Operating Project in Program Planning and Development

The "client" in this case study is really a number of requesters who have in common the planning and development of programs for teachers through the Center for Educational Advancement (CEA), a teacher center funded through the U.S. Office of Education under the Education Professions Development Act. The CEA was one of four such pilot projects across the nation funded by USOE. In Washington, D.C., the CEA is geared toward providing services to teachers of students from pre-kindergarten through 9th grade. The project is headed by a Director and four Assistant Directors/Coordinators. Each coordinator is responsible for one of four program areas of the CEA, namely, Curriculum Development, Staff Development, Educational Programs in Urban Areas, and Information Dissemination.

Two junior high schools and their feeder elementary schools in middle - low socioeconomic communities were selected for participation in the CEA Project. One extension agent provided personal linkage services from RUP to the staff of the CEA as they planned activities for the Center and participants from its target schools. Orientation sessions were provided to CEA staff by the extension agent and RUP staff. Requests were made by members of the CEA staff for activities related to project components mentioned above. Other services from RUP included computer searches of the ERIC data base, printouts, microfiche reproduction, loan of portable readers, and so forth.

Many searches were performed for CEA staff. One such search concerned approaches to conducting workshops. An ERIC document entitled "How to Conduct a Workshop" was identified in a search and was, according to the requester, used in working with small groups of teachers to help them solve teaching/learning problems. Another CEA client reported that a request for information pertaining to behavioral objectives was utilized in a workshop on preparing Learning Activity Packages.

According to reports of the coordinators in the project components, the materials and services provided by RUP to CEA helped them be more aware of professional materials in the areas of their respective responsibilities and were useful in the planning and implementation of a number of specific programs.

III. B.

PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

AN ANALYSIS OF THE IMPACT OF THE RESEARCH UTILIZATION PROJECT ON PRINCIPALS' ATTITUDES AND ON THE USE OF INFORMATION SERVICES BY TEACHERS AND OTHER FIELD PERSONNEL IN 16 TARGET ELEMENTARY SCHOOLS OF THE DISTRICT OF COLUMBIA

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Abstract

The purpose of this study was to evaluate the impact of the Research Utilization Project on sixteen public elementary schools. A part of the RUP was using educational extension agents to make principals, librarians, and teachers more aware of research resources in the Research Information Center of the Washington schools.

It was hypothesized that the Project would positively influence the number of research requests and principals' attitudes. Results, based on a sample of sixteen principals whose attitudes were assessed by a specially constructed attitude rating scale, supported the hypotheses and demonstrated the favorable impact of the project.

AN ANALYSIS OF THE IMPACT OF THE RESEARCH UTILIZATION PROJECT ON PRINCIPALS' ATTITUDES AND ON THE USE OF INFORMATION SERVICES BY TEACHERS AND OTHER FIELD PERSONNEL IN 16 TARGET ELEMENTARY SCHOOLS OF THE DISTRICT OF COLUMBIA

Introduction

For the last two years, among the primary program objectives set forth by the Superintendent of Schools in "The Superintendent's Operational Tasks 1971-1972," the goal of raising the level of academic achievement of students in the areas of reading and mathematics has headed the list. But even before that, a modified version of a plan presented by Kenneth Clark, called "A Design for the Attainment of High Academic Achievement for the Students of the Public Elementary and Junior High Schools of Washington, D. C.," popularly known as the Clark Plan, had been implemented in the schools.

The Research Information Center (RIC), (see Appendix A), through the Department of Research of the Office of Planning, Research and Evaluation of the D. C. Public Schools, prepared and submitted a proposal to the Office of Education in April 1971 for the establishment of a Research Utilization Project (RUP) (see Appendix B). The U. S. Office of Education awarded the contract to the D. C. Public Schools, and funding began in June 1971 for a period of 18 months.

The selection of the 16 target schools was determined by the fact that they were a part of a program evaluation system. They had been selected for inclusion by a multistage stratified sampling method based on enrollment and geographic areas. Also it was hoped that the existence of additional data on these schools might prove to be of benefit for any future correlational purposes.

The project director, the project coordinator, and the assistant project coordinator were already on the staff of the Office of Planning, Research and Evaluation when the project began. A freeze on the filling of vacant positions and the general fiscal crisis experienced by the D. C. Public Schools at that time, however, caused a delay in staffing the rest of the RUP positions, so that two of the three linkers did not join the project until January 10, 1972, while the third linker began May 1, 1972.

The project director of the Research Utilization Project was the Assistant Superintendent for Research and Evaluation, Departments of Research and Evaluation, Office of Planning, Research and Evaluation, D. C. Public Schools. She had final administrative authority over all aspects of the project, and a portion of her time was committed to the project.

The project coordinator of the RUP was the coordinator of the Research Information Center and reported directly to the project director. Fifty percent of his time was committed to the project. His duties included the day-to-day administration and supervision of the project staff. Under the general supervision of the project director, the coordinator was responsible for the project, including coordination with other departments and target schools, training, purchasing, evaluation, project reporting, and so forth.

The assistant project coordinator was directly responsible to the project coordinator and assisted him in the various day-to-day activities of the project. She was also responsible for collecting and tabulating data for monthly and other reporting that were required for project evaluation.

Linkers are resource persons who disseminate research information to schools. On-the-job training for the first two linkers began January 10, 1972 and extended over a period of two weeks. The third linker began her training May 1, 1972. The librarians of the target schools, who were to play an important role in the Project, were trained February 2 and 3, 1972. Figure 1 (Farr, 1969) schematically depicts the role of the linkers in the flow of educational knowledge, and the role of the gatekeeper, which in the Research Utilization Project was assigned to the librarians.

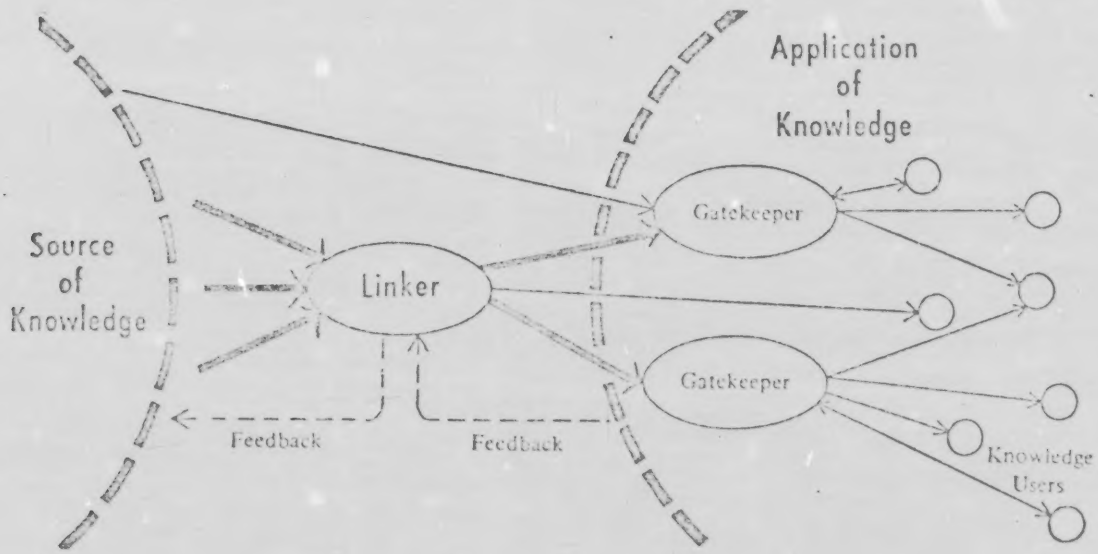

Fig. 1
The Flow of Educational Knowledge

The main purpose of the Research Utilization Project was to translate research into educational practice at the instructional level in the D. C. Public Schools, with the initial emphasis in the area of reading. To effect the link between the resources of the RIC and the

needs of key field personnel--teachers, principals, librarians, and reading specialists--liaison researchers (the linkers previously mentioned) were used to acquaint target personnel with research findings and to provide information to classroom teachers for initiating and developing programs.

Statement of the Problem

The purpose of this evaluation was to assess the effect of selected aspects of the Research Utilization Project on the 16 target schools which were part of the pilot project.

This study has the following objectives:

1. To determine how information supplied through this project or by project staff was utilized by determining if any projects were initiated or developed as a result of the RUP

2. To assess user satisfaction with RUP products and services

3. To ascertain the number of searches that were conducted since January 1972 due to the RUP target schools

4. To obtain the reactions of target school principals to the RUP

5. To ascertain what use was made of material placed in school libraries by the Research Utilization Project and of what value this material was.

Central to the RUP was the concept of the previously mentioned linker, also known as "liaison researcher," "knowledge linker" (Farr, 1969), "county agent" (Benson, 1969), "change agent" (Goodson and Hammes, 1968), and "information specialist" (Paisley, 1968), whose function it was to provide a link between research sources and the practitioner in

the field, to identify local educational problems and needs, refer them to the ERIC Office for an information search, transmit findings to the teachers, and initiate new research efforts when information needed for problems could not be located.

Review of the Literature

The science of knowledge utilization is a new field, which began emerging in the 1960's (Havelock, 1969).

The concept of the linker is an outgrowth of the agricultural extension agent concept, and some of the same principles apply to both concepts (Farr, 1969). Akinbode (1969) studied the degree of communication between farmers and the agricultural extension service and found that extension agents may influence the nature of contacts by the emphasis they place on particular methods.

In the area of job satisfaction and performance, Erwin (1969) studied the effects that relate to the degree of involvement of county staff members by the county extension chairman in decision making. He found perceived involvement associated with both the level of job satisfaction and the performance of county staff members.

In the field of education, change takes place very slowly. Rhodes (1969) spoke of the reluctance of educators to engage in innovations, not because innovations lack validity, but because they may require of the educational practitioner changes in role, scheduling, space allocations, etc. Today's problem, according to Lavin (1971), is exemplified not by lack of available knowledge but by lack of utilization of educational research, which is caused by the gap existing in the system of knowledge transfer.

Rhodes (1969) described the Educational System for the Seventies (ES '70) demonstration network which was concerned with creating a climate that encouraged innovation and experimentation. The ES '70 Project dealt with the problem of how to facilitate an effective process of institutional change which would start with a school's physical and personnel resources and would permit it to evolve more relevant and appropriate means to support learning. In the project, E. F. Shelley and Company, Inc., a multidiscipline organization in educational management and information systems, was assigned the task of linking agent and was responsible for viewing each activity in reference to its effect on the whole. The company was charged with collecting and analyzing data and relating school needs to research and research-funding agencies. The company also disseminated research information to the schools and could develop new means of facilitating the exchange of information necessary for decision making.

To ensure that most effective use is made of research, Lyons (1966) believed that research personnel should be available to help in the implementation process.

As described by Farr (1969), the functions of a linking institution include:

1. Anticipating areas of concern among members of the target audience

2. Turning to resources and gathering information available on the subject

3. Selecting the most salient elements

4. Summarizing

5. Drawing conclusions

6. Presenting review of literature in an easily readible and digestible form

7. Effectively disseminating the information to the people who need it

Duties of field agents were seen by Louis (1970) as:

1. Helping educators identify educational problems

2. Preparing educators' requests for information

3. Helping educators develop approaches and plans in problem-solving or innovation

4. Assisting educators in utilization of data

5. Helping educators to plan and to implement research information

Havelock (1970) included two additional areas of concern in which the change agent should build a collaborative helping relationship with his client and try to maintain this relationship. As a last step he listed the importance of generating and maintaining a problem-solving, self-renewing capacity.

The Office of Education pilot tested the extension agent concept in South Carolina, Utah, and Oregon in 1970, in order to develop, test, and demonstrate ways in which state educational agencies could furnish information to local educators. Sieber's evaluation (1972) of the Pilot State Dissemination Program found that "field agents" were reaching educational personnel closer to the classroom who in their training were less likely to have been exposed to educational research or innovations.

"Field agents" in these three states were found to render better assistance than others (e.g. a large proportion of curriculum and instruction experts). Clients of field agents implemented new practices as a result of information or assistance they received; they had a higher utilization rate than non-target clients. The conclusion reached in this study was that the personal assistance of the "field agent" accounted for the differential rate of use, and that the field agent acted as a catalyst to the client.

In addition to the grant for the extension agent concept awarded to the D. C. Public Schools, eight other research centers were funded for the fiscal year 1972.

Since the Research Information Center is the State ERIC Office in the District of Columbia, the research information resources and capabilities to support a project like the RUP were already in existence.

In evaluating a program as extensive as this there are certain limitations that should be kept in mind. Goodson (1968) listed the following:

(1) Inability to control variables to the extent that effectiveness exclusively of the change agents can be measured;

(2) Attempting to measure an ongoing process instead of an end product;

(3) Lower validity and reliability of attitudinal and behavioral types of surveys as compared to more objective data.

Havelock (1970) commented that when a project like this is evaluated, many measurable benefits might not be generated for one or two years, even though the program worked perfectly. An earlier evaluation might reveal "no effect" when a real effect was still emerging.

Godson (1968) offered the following criteria for an evaluation of this type:

1. Positive changes in individual behavior and attitudes toward innovation and change;
2. Developing a climate conducive to innovation and change;
3. Positive change in innovativeness of a school system; and
4. The system's ability to be self-starting or self-renewing.

Hypotheses

Hypothesis One

Since it is theorized that a helping and interprofessional relationship increases participation, it is expected that the number of searches initiated in the target schools (in the RUP Project) between January 1, 1972, and June 30, 1972, is greater than the number of searches initiated in a comparable number of non-target schools during that same time period. The target schools had already been previously selected for participation in the pilot stage of the Evaluation System. The selection was by means of a multistage stratified sampling method based on enrollment and geography. Because of the availability of data, it was decided to have these same schools become the RUP target schools (see Appendix C). Non-target schools were similarly selected by a multistage stratified sampling method based on enrollment and geography.

Hypothesis Two

It is expected that there will be an increase in the total number of searches conducted between January 1, 1972 (the beginning of the RUP Project), and June 30, 1972, over the number of searches conducted between January 1, 1971, and June 30, 1971.

Hypothesis Three

It is expected that the number of searches conducted for the target schools between March 1, 1972, and June 30, 1972, is more than the number of searches conducted for these schools between March 1, 1971, and June 30, 1971.

Hypothesis Four

It was theorized that general satisfaction is related to interpersonal involvement and is increased by a helping and interprofessional relationship. Therefore, it is hypothesized that principals at the RUP target schools have positive attitudes toward the RUP Project.

Hypothesis Five

It is hypothesized that there is a direct relationship between the amount of research information and services supplied to RUP target schools and RUP principals' attitudes toward the Project.

Research Design

Sample

The sample consisted of the sixteen principals from the RUP target schools. Fifteen of the principals were women; fourteen of the principals were black, while two of them were white. When interviewed twelve of the sixteen principals were active, two were retired, one had left the school system, and one was serving for the principal. Information on the sex, race, and status of the sixteen randomly selected non-target school principals was not available.

Data Gathering Instruments

Research Request Form

This form (see Appendix D), which was used to gather data on the clients of the Research Information Center, consists of five sections and collects data pertaining to the client's position, how contact was made, purpose of the information request, statement of the research problem, dates when the request was made and filled, resources used, time required, and search results. The client could complete his part of the form in five minutes. A simple tally of these forms yielded the number of searches.

Principals' Attitude Rating Scale

The numerical rating scale (see Appendix E), which was constructed especially for the RUP Project, consists of 18 items pertaining to the Research Utilization Project and to principals' opinions concerning this project. It was designed to obtain answers to the following:

1. Attitude of respondents toward the RUP Project
2. Attitude of respondents toward the "linker"
3. Respondents' opinion of frequency of searches conducted for the school and for the principals personally
4. Use made of searches conducted, specifically if they have resulted in new programs or new teaching techniques
5. Principals' opinion of librarians' and teachers' attitudes toward the project
6. Use of ERIC materials placed in RUP schools.

The questions were arranged in either increasing or decreasing order of favorableness.

Scoring. Twelve of the eighteen items on the Principals' Attitude Rating Scale were scored from one to four. The response that was most favorable to the Research Utilization Project was assigned a value of four, the next most favorable, a three, etc., so that the least favorable response was assigned a value of one. Six of the items were scored either one or two, the latter being the more favorable response, and one being socred as less favorable. The individual item scores were summed to obtain a total score. If all questions were answered, the possible range of scores was from a low of 18 to a high of 60.

Reliability. The reliability of this rating scale was not tested.

Validity. This rating scale has face validity.

Procedures

Data for determining the number of searches initiated in both the target and non-target schools between January 1, 1972, and June 30, 1972, were obtained by tallying the number of search request forms for those schools for that time period. Similarly, data for determining the number of searches initiated between January 1, 1971, and June 30, 1971, were obtained by tallying the number of search request forms for that time period. The same procedure was followed for determining the number of searches conducted between March 1, 1971, and June 30, 1971, and for those conducted between March 1, 1972, and June 30, 1972.

RUP principals' attitudes were measured by means of the Principals' Attitude Rating Scale. This instrument was pretested on the two principals who had retired, with the instrument being administered to them at their homes. On the basis of the experience gained from these two trials,

the Principals' Attitude Rating Scale was revised, and for the sake of ease in scoring, it was made completely objective.

The Principals' Attitude Rating Scale was, in most cases, brought to the principal by the project coordinator and his assistant, who had made previous appointments to see the principal (see Appendix F). Each respondent was asked to choose from among either two or four alternative choices. All but three of the principals completed the rating scale in the presence of the project coordinator and his assistant; these three principals mailed the completed questionnaire back. All questionnaires were completed between November 17, 1972, and January 10, 1973. The questionnaires were then scored according to the previously constructed scoring key. The scores were then summed and entered on Fortran Coding Forms, according to the preconstructed Coding Manual (see Appendix G).

Results

Amount of Use

In Table 1 are the monthly number of searches conducted between January 1 and June 30, 1972. The total number of searches for the target schools (168) is 56 times the number of searches conducted for the non-target schools (3). This finding supports the first hypothesis, namely, that the number of searches initiated in the target schools is greater than the number of searches conducted for non-target schools during this time period.

Table 1

Comparison of Number of Searches
Conducted for the 16 Target and 16 Non-Target Schools
Between January 1, 1972 and June 30, 1972

Month	Number of Searches	
	Target Schools	Non-Target Schools
January	5	0
February	33	0
March	42	0
April	47	0
May	15	2
June	26	1
Total Jan. - June, 1972	168	3

The number of searches conducted for the six months, January through June, 1971, was compared with the number of searches conducted for the six comparable months of 1972 (see Table 2). Monthly totals for 1972 were larger than monthly totals for 1971, with the exception of the month of June. An obtained chi-square of 25.4255 with 5 degrees of freedom is significant at the .01 level. This finding supports the second hypothesis.

Table 2

Month-by-Month Comparison of the Total Number of Searches Conducted by the RIC Staff Between January 1 and June 30, 1971, With the Total Number of Searches Conducted Between January 1 and June 30, 1972

Month	Number of Searches	
	1971	1972
January	97	118
February	73	139
March	116	163
April	76	129
May	71	111
June	125	100
Total for 6 Months	558	760

x^2 Chi-square = 25.4255 with 5 degrees of freedom

A comparison of the number of searches conducted for the RUP target schools for two time periods--March 1 to June 30, 1971, and March 1 to June 30, 1972--is depicted in Table 3. The total number of searches conducted for RUP target schools in 1971 is only 1, with May being the only month during which a search was conducted. Monthly totals for 1972 range from a low of 16 for the month of May to a high of 47 for the month of April. The total number of searches conducted for RUP target schools in 1972 was 128, a substantial increase over 1971. This finding supports the third hypothesis.

Table 3

Comparison of Number of Searches Conducted for the RUP Target Schools Between March 1 and June 30, 1971, With Searches Conducted Between March 1 and June 30, 1972

Year	Searches for all Target Schools				
	March	April	May	June	Total
1971	0	0	1	0	1
1972	42	47	15	24	128

Principals' Attitudes Toward The Project

RUP target school principals' attitudes toward the Project were elicited in questions 2, 3, 8, 11, 12, 13, 14, 17, and 18 of the Principals' Attitude Rating Scale. Their rating of the program for those who used it is compared with their rating of the program in their school overall in Table 4. All sixteen principals gave the project a very high or high rating for users of the services, whereas only one principal gave the program the highest rating in her school overall. Seven principals gave the program a high rating in their schools overall, while seven others felt it was not effective overall.

Table 4

Principals' Rating of RUP Program for Users and in School Overall

(N=16)

Rating of Program	Level of Rating							
	Highest Rating		High Rating		Low Rating		No Response	
	N	%	N	%	N	%	N	%
For Users	8	50.0	8	50.0	0	0	0	0
In School Overall	1	6.3	7	43.8	7	43.8	1	6.3

Principals' feelings regarding the expansion of the project were explored in two questions, one relating to expansion of the program within their own school and one relating to expansion of the program to the rest of the school system (see Table 5). Twelve of the sixteen principals favored expansion of the program within their schools, while fourteen out of sixteen were in favor of providing the RUP services to the rest of the school system. All principals who had voted in favor of expanding the RUP program within their own schools also voted for letting other schools have these services too.

Table 5

Principals' Answers to Questions
Revealing Their Attitudes
Toward the Research Utilization Project
(Two-Choice Questions)
(N=16)

Question No.	Variable	Type of Response					
		Favorable (Yes)		Unfavorable (No)		No Response	
		N	%	N	%	N	%
2	Liking of Program	15	93.8	0	0	1	6.3
13	Expansion of Program Within School	12	75.0	4	25.0	0	0
14	Expansion of Program to Rest of School System	14	87.5	1	6.3	1	6.3

In reply to the question if principals liked the program, it will be seen in Table 5 that fifteen out of sixteen principals, or 93.8%, liked it. No unfavorable responses were given, but one principal failed to answer this question.

A composite of the six four-choice questions demonstrating the principals' attitudes toward the Research Utilization Project is shown in Table 6. No unfavorable responses were given by any principal to any of the six questions. Except for one question, which concerned the rating of the program in the school overall, at least twelve out of sixteen principals' responses (or 75%) fell into the highly favorable or favorable category. All sixteen principals gave a highly favorable or a favorable response to the question relating to the helpfulness of the program to users. Principals were about evenly divided on the question relating to the effectiveness of the program in the school overall.

Table 6

Principals' Answers to Questions Revealing Their Attitudes Toward the Research Utilization Project (Four-Choice Questions)
(N=16)

Question Number	Variable	Degree of Favorableness of Response										Total
		Highly Favorable		Favorable		Neutral or Slightly Unfavorable		Unfavorable		No Response		
		N	%	N	%	N	%	N	%	N	%	
3	Helpfulness of Program to Principals	5	31.3	9	56.3	1	6.3	0	0	1	6.3	100.2
8	Satisfaction With Extension Agent	4	25.0	10	62.5	1	6.3	0	0	1	6.3	100.1
11	Helpfulness of Program to Users	8	50.0	8	50.0	0	0	0	0	0	0	100.0
12	Rating of Program in School Overall	1	6.3	7	43.8	7	43.8	0	0	1	6.3	100.2
17	Value of Material to Principals	3	18.8	9	56.3	0	0	0	0	4	25.0	100.1
18	Recommendation of Program to Others	6	37.5	7	43.8	2	12.5	0	0	1	6.3	100.1

Table 7 shows how each principal answered the two-choice questions and the four-choice questions related specifically to principals' attitudes toward the Research Utilization Project. Following each group of questions--that is, following the group of two-choice questions and following the group of four-choice questions--is a column that shows the mean for that particular set of questions. The last column represents the aggregate mean of the two- and four-choice question means, which was obtained by adding these two means.

Table 7

Two-Choice Question Means, Four-Choice Question Means, and Aggregate Means of Questions Relating to Principals' Attitudes Toward the Research Utilization Project
(N=9)

Principal	NUMBER OF			Two-Choice Question Mean	NUMBER OF					Four-Choice Question Mean	Aggregate Mean
	Yes (2) Answers	No (1) Answers	No Response		Highly Favorable (4) Responses	Favorable (3) Responses	Neutral or Slightly Unfavorable (2) Responses	Unfavorable (1) Responses	No Response		
1	2	1	0	1.67	0	5	1	0	0	2.83	4.50
2	3	0	0	2.00	0	6	0	0	0	3.00	5.00
3	3	0	0	2.00	0	4	1	0	1	2.80	4.80
4	3	0	0	2.00	5	0	1	0	0	3.67	5.67
5	3	0	0	2.00	6	0	0	0	0	4.00	6.00
6	3	0	0	2.00	1	5	0	0	0	3.17	5.17
7	3	0	0	2.00	0	2	3	0	1	2.40	4.40
8	3	0	0	2.00	2	3	1	0	0	3.17	5.17
9	3	0	0	2.00	4	1	0	0	1	3.80	5.80
10	0	2	1	1.00	1	0	2	0	3	2.67	3.67
11	2	1	0	1.67	0	6	0	0	0	3.00	4.67
12	3	0	0	2.00	4	1	0	0	1	3.80	5.80
13	1	1	1	1.50	0	6	0	0	0	3.00	4.50
14	3	0	0	2.00	2	3	0	0	1	3.40	5.40
15	3	0	0	2.00	1	4	1	0	0	3.00	5.00
16	3	0	0	2.00	1	4	1	0	0	3.00	5.00

The lowest possible aggregate mean is 2, and the highest possible combined, or aggregate, mean is 6, placing the midpoint of the possible range 2-6 at 4.

As can be seen more easily in Table 8, which depicts the frequency distribution of the aggregate means, both the mode and the median of the aggregate means are 5.00. The midpoint of the possible range is 4. The assumption is that any score lying above 4.00 denotes a favorable attitude, while scores falling below 4.00 would indicate unfavorable attitudes. Table 8 illustrates that fifteen out of sixteen scores, or 94%, fell above 4.00 on the aggregate mean, while only one score fell below that point. The median and mode of the aggregate mean lie above the midpoint of the range, and ten out of sixteen cases fall at or above the median, with only six cases falling below it. These data support the fourth hypothesis, that RUP principals have positive attitudes toward the RUP project, which was the case with fifteen out of sixteen principals.

Table 8

Frequency Distribution of Aggregate Means Based on Two-Choice and Four-Choice Questions Relating to Principals' Attitudes Toward RUP

Aggregate Mean	f
6.00	1
5.80	2
5.67	1
5.40	1
5.17	2
5.00	3
4.80	1
4.67	1
4.50	2
4.40	1
3.67	1

Median = 5.00
Mode = 5.00

Information concerning the principals' use of RUP services and materials is presented in Table 9 while data in Table 10 display the frequency of such use. There was a slightly greater use by principals of RUP services than of RIE, CIJE or PREP materials (81.3% vs. 68.8%), as illustrated in Table 9.

Table 9

Principals' Use of Services and Materials Provided by the Research Utilization Project

(N=16)

Category of Use	Amount of Use	
	Number of Users	Percent
Services	13	81.3
Materials (RIE, CIJE, PREP)	11	68.8

As was already evident in Table 9, thirteen out of sixteen principals used RUP services at some time. This statistic is verified and refined in Table 10. While three principals, as is indicated in both Tables 9 and 10, never used RUP services, eleven principals, or 68.8%, used the services one to five times. One principal used the services six to ten times, and one principal indicated she had used RUP services more than ten times (see Table 10).

Table 10

Frequency of Principals' Use of
RUP Services

(N=16)

Categories of Frequency of Use	Number of Principals	Percent of Principals
Never	3	18.8
1 - 5 times	11	68.8
6 - 10 times	1	6.3
More than 10 times	1	6.3

Principals' Opinions of Teachers' and Librarians' Use

Principals of the RUP target schools were also questioned regarding their perception of their teachers' and librarians' use of the RUP, as well as their opinion regarding the percent of their staff using project services. Although data are missing on three librarians, whereas data on teachers are complete, a glance at Table 11 shows that the remaining 13 librarians used the RUP either a lot, as was the case with four librarians (25%), or some, as was the case with nine librarians (56.3%). Teacher use of the RUP services was put by nine principals (56.3%) into the "some" category and by seven principals (43.8%) into the "very little" category. (See Table 11.)

Table 11

Principals' Perceptions of
Teachers' and Librarians' Use
of the System

(N=16)

Target Group Evaluated	Frequency and Percent of Use							
	A lot	%	Some	%	Very Little	%	Missing Data	%
Teachers	-	-	9	56.3	7	43.8	-	-
Librarians	4	25.0	9	56.3	-	-	3	18.8

As indicated in Table 12, thirteen out of sixteen principals estimated that up to 25% of their staff availed themselves of RUP services, while two principals thought that RUP use by their staff ranged between 26 and 50 percent.

Table 12

Principals' Perceptions of
Percent of Staff Using Project Services
(N=16)

Extent of Use	Staff Using Services	
	N	Percent
Up to 25%	13	81.3
26-50%	2	12.5
No response	1	6.3

Principals' perceptions of the feelings of teachers and librarians toward the Research Utilization Project were explored in two questions of the Principals' Attitude Rating Scale, and the results are presented in Table 15. Principals perceived no unfavorable attitudes toward the project on the part of either teachers or librarians, while very favorable attitudes were perceived for eight librarians (50%) and for the teaching staff of three principals (18.8% of principals). When both very favorable and favorable attitudes are combined, twelve principals (75%) put their teaching staff into either of these categories; thirteen principals (81.3%) placed their librarians into either of these favorable categories.

Table 13

Principals' Perceptions of
Teachers' and Librarians' Feelings
About the Research Utilization Project

(N=16)

Principals' Opinions Regarding Staff Attitude Toward RUP	Degree of Favorableness									
	Very Favorable	%	Favorable	%	Neutral or Slightly Favorable	%	Unfavorable	%	No Response	%
Teachers' Feelings	3	18.8	9	56.3	3	18.8	0	-	1	6.3
Librarians' Reactions	8	50.0	5	31.3	0	-	0	-	3	18.8

In order to determine how many new projects, programs, or teaching techniques were initiated as a result of the Research Utilization Project, principals were asked to respond by selecting from among four categories. The categories and the number and percent of principals who chose each category are presented in Table 14.

Table 14

Number of New Projects, Programs,
or Teaching Techniques Resulting from RUP

(N=16)

Response Category for Number of Programs	Number and Percent of Principals Responding	
	Number	Percent
None at all	2	12.5
A few (2 or 3)	10	62.5
Quite a few (4-6)	3	18.8
No response	1	6.3

As can be seen in this table, the majority of the principals (62.5%) believed that the Research Utilization Project was responsible for two or three projects. Two principals (12.5%) thought that no new projects were traceable to RUP, whereas three principals (18.8%) attributed four to six new projects to the impact of the program.

For the purpose of ascertaining if any correlation exists between principals' attitudes and the number of searches conducted for the target schools, both Pearson Product-Moment (r) and Spearman Rank-Order (rho) correlations were run. The Pearson Product-Moment correlation between the Principals' Attitude Rating Scale and the number of searches conducted for the target school was 0. The Spearman Rank-Order correlation for

the same data was .11 at the .66 level of confidence. No relationship was found in either one of these tests. A matrix detailing the various Spearman correlations between total number of searches conducted for the target schools between January 1 and June 30, 1972, and the nine attitudinal items of the Principals' Attitude Rating Scale is shown in Table 15. The figures significant at the .05 level are starred, which would be considered significant in this study.

Table 15

Matrix Showing Correlation Between
Total Number of Searches and Principals' Attitude
Score Based on Variables 2, 3, 8, 11, 12, 13, 14; 17, and 18
of Principals' Attitude Rating Scale

Variable Numbers	Variable Numbers								
	26	2	3	8	11	12	13	14	17	18
26	-	-.20	-.25	-.21	.33	-.45*	-.13	.04	-.23	.14
2		-	.47*	.49*	-.26	.21	.45*	.63*	.38	.36
3			-	.81*	.30	.05	.42	.40	.60*	.69*
8				-	.42*	.01	.38	.38	.34	.56*
11					-	0	.29	.02	-.11	.47*
12						-	0	-.02	.01	.34
13							-	.65*	.16	.35
14								-	.23	.32
17									-	.23
18										-

* Significant at .05 level or better.

Pearson Product-Moment (r) Sum of Variables 2, 3, 8, 11, 12, 13, 14, 17, 18 with Variable 26 = 0

Spearman Correlation Coefficient (rho) Sum of Variables 2, 3, 8, 11, 12, 13, 14, 17, [illegible] with Variable 26 = .11 at .05 Level of Confidence

This table of the relationship between attitudes and number of searches shows that only one item, Number 12, correlates at a .05 level of significance with number of searches. This item questions the principals about their rating of the program in the school overall, and the correlation, though significant, is negative. This table also shows other correlations among the various items of the test that are significant at the .05 level or better. For instance, there is a correlation between satisfaction with the services of the extension agent and liking of the program and between satisfaction with the services of the extension agent and helpfulness of the program.

The fifth hypothesis, that there is a direct relationship between the amount of research information and services supplied to RUP target schools and RUP principals' attitudes toward the Project, was not supported.

Discussion

One of the objectives of this evaluation was to assess the impact the RUP project has had on the total number of searches. This was done in two ways. Searches conducted for target schools were compared with searches conducted for non-target schools, and the number of searches before the Research Utilization Project entered was compared with the number of searches after the RUP entered the schools. The impact of the RUP, as shown by these two indicators, was indeed great.

Another objective of this study, a determination of principals' satisfaction with RUP products and services, resulted in two divergent findings. Whereas all principals gave the RUP the highest or a high rating for those who had used it, principals' ratings of the RUP in their schools overall was considerably lower. This would point to the fact that those principals and teachers who had used the RUP found it very helpful, but that there was not enough awareness of the project in the schools.

Measures intended to gauge principals' attitudes toward the Research Utilization Project showed that fifteen out of sixteen liked the Project and held favorable attitudes toward it. No principal disliked the Project.

Closely related to principals' satisfaction is their opinion regarding expansion of the program, both within the target schools and to the entire school system. The majority of the principals favored expansion of the project; twelve out of sixteen favored expansion of the

program within their own schools, and fourteen out of sixteen were in favor of expansion to the whole school system. This overwhelming vote in favor of expansion underlines the need for greater awareness cited above.

Less frequent use of materials placed in target schools, such as RIE and CIJE Indexes and PREP Kits, than of RUP services generally is probably due to the fact that the extension agents (linkers) appeared at regular intervals at the schools to remind the staff of the availability of their services.

One of the most important aspects of this evaluation was determining the utilization of information in the form of new projects, programs, or teaching techniques initiated or developed as a result of the Research Utilization Project. The majority of the principals reported that the RUP was responsible for some new projects; only two principals attributed no new projects to RUP.

An investigation into a hypothesized direct relationship between principals' attitudes and number of searches conducted for their schools showed that no such relationship existed. This hypothesis was not supported, possibly because searches were conducted mainly for teachers and librarians, rather than for principals.

Conclusions

Data collected and analyzed indicated that the Research Utilization Project was responsible for a large increase in the number of searches, both when target schools were compared with non-target schools and when target schools were compared with themselves during RUP and non-RUP time periods. These data support the hypothesis that a helping and interprofessional relationship, in this case exemplified by the educational extension agents (linkers), increases participation.

Data also indicated that fifteen out of sixteen principals held favorable attitudes toward the Research Utilization Project, as elicited by the attitudinal questions of the Principals' Attitude Rating Scale. The hypothesis that satisfaction is related to interpersonal involvement (in this case RUP) and is increased by a helping and interprofessional relationship (the linkers) is thus supported.

The direct relationship that was hypothesized to exist between amount of research information and services supplied to RUP target schools and RUP principals' attitudes toward the Project did not materialize. It must be assumed, therefore, that the number of searches conducted for the schools was independent of principals' attitudes toward the RUP. The data, then, do not support this hypothesis, perhaps due to the fact that the searches were conducted mainly for teachers and librarians, while the questions were asked of the principals.

Recommendations

This study affirms the problem stated by Lavin (1971) that a gap exists in the system of knowledge transfer, and that this gap causes or contributes to the lack of utilization of educational research. The project supports the finding of previous research in demonstrating the effectiveness of the personal contact rendered by the educational extension agent, as this contact led to a large increase in the number of searches and contributed to highly favorable attitudes on the part of the participating principals.

This project did bridge the gap between the central research resources and field personnel by utilizing the interpersonal linkage concept of the educational extension agent. It is, therefore, recommended that the extension agent concept serve as a model for the development of a system-wide information dissemination system.

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APPENDICES

APPENDIX A

ERIC → RESEARCH INFORMATION CENTER

AFFILIATION: Departments of Research and Evaluation
Division of Planning, Research and Evaluation
Public Schools of the District of Columbia
Suite 1013, 415 Twelfth Street, N. W.
Washington, D. C. 20004
Telephone (202) 347-6727

HOURS: Open - 8:30 A.M. - 5:00 P.M. Monday-Friday
Closed - Saturdays, Sundays, and Holidays

ADMINISTRATION: Dr. Mildred P. Cooper, Assistant Superintendent
Departments of Research and Evaluation

Roger J. Fish, Coordinator
Research Information Center

PURPOSE: The Center was organized in 1969 to assist the professional staff of the District Schools in projects involving educational research. Research information is collected, stored, retrieved, and disseminated toward this objective.

USERS:
- Board of Education
- DCPS Teachers and Other Educational Personnel
- Central and Field Administration
- Federal and District Agencies
- Community Groups and Other Local Organizations

VISITORS: Visitors are welcome to use the information resources in the Center. The Center staff will locate and retrieve material for you. Assistance in the use of indexes and guides will be provided.

GUIDES AND RESOURCES: Card Catalog with author, title and subject entries. The Library of Congress Classification is used.

Periodical Catalog lists approximately 100 periodicals in the Center.

Vertical File contains documents and materials on a wide variety of educational subjects.

Current Index to Journals in Education (CIJE) is a comprehensive author and subject guide to articles in the field of education. CIJE indexes over 500 educational journals each month with annotations and is cumulated annually and semiannually.

Research in Education (RIE) is a monthly abstracting service of the Educational Resources Information Center (ERIC). RIE is an author-subject-institution index to documents pertaining to educational research. These indexes and microfiche copies of the documents are maintained in the Center. Readers and reader-printers are available for viewing of documents.

PREP: PREP (Putting Research into Educational Practice) is a cooperative service offered by the Office of Education to State Departments of Education. PREP pulls together the best thinking of researchers on specific educational topics and expresses their findings in nontechnical language. The Research Information Center reproduces and distributes summary copies on request. Full reports are available on loan. PREP is also included in RIE and is available on microfiche.

HISTORICAL DOCUMENTS: Some historical and archival materials on the D. C. Public School System is available for use in the Center by visitors. These include reports of the Superintendents and Board of Trustees from 1845 through 1932.

EDUCATIONAL RESEARCH SERVICE: Through a subscription to the Educational Research Service (ERS) of the NEA and the AASA, the Center has direct access to an extensive source of current information and research on education not readily available elsewhere. Indexes to ERS publications are available for use.

NEWSCLIPPINGS: A file of clippings of local newspapers is maintained in the Center. Articles are filed by subject matter. An index is available for reference. Clippings are also posted as a current awareness activity of the Center.

STATISTICAL REPORTS: Current and historical published statistical reports of the school system are available on pupils, personnel and buildings.

BUDGET AND FINANCIAL MATERIALS: Also available for reference is selected published information on Federal, state, and city school finances, as well as D. C. School budgets.

AVAILABILITY OF SERVICES: Potential clients of Center services may be grouped as follows:
Category I: This includes individuals or groups involved in direct support of school system programs. Computer and other services are available on a priority basis to these individuals.
Category II: Other users, such as community groups, Federal, District, or other local agencies or organizations, are given services in accord with the nature and purpose of their request in terms of school system operational priorities. These requests must be submitted in writing to the Assistant Superintendent, Departments of Research and Evaluation.
Category III: Employees of the school system and other students doing graduate or undergraduate work or involved in other projects are welcome to use Center facilities, as are those in categories I and II. Computer services will be provided only upon approved written request to the Assistant Superintendent, Departments of Research and Evaluation. This letter should indicate the purpose of the request and a statement indicating how such a search will directly benefit the school system. Execution of such a search request will follow approval of the written request. Center staff will be happy to provide information on the availability of computer searches on a fee basis from outside sources upon request.

APPENDIX B

READING RESEARCH UTILIZATION PROJECT --
an RIC project for Teachers and other Field Personnel,
Washington, D.C.

The Reading Research Utilization Project was funded in Washington, D.C. in July, 1971. In direct support of D.C. Public School system objectives to raise reading achievement of the pupils, the Departments of Research and Evaluation, through the Research Information Center, extend special research information services to 16 elementary schools on an experimental basis. Emphasis in this project is on reading. To effect the link between resources and practitioner, two Educational Extension Agents (EEA's) are working through target school librarians to supplement local school information resources and services available to each school's Reading Mobilization Team and other key instructional personnel charged with the responsibility for improvement of reading achievement. A third Extension Agent will be active in providing information services to the Teacher Center, a special project in educational renewal funded by the U.S. Office of Education.

EEA's currently provide the following services:

1. Assist the client in question negotiation or problem statement.
2. Perform manual and computer searches of ERIC and non-ERIC materials for information or solutions to problems.
3. Screen, analyze, and synthesize retrieved information for user and display alternatives to user.
4. Coordinate with target school librarians to provide supplemental information resources and services.
5. Assist target school librarians in instructing interested field personnel in how to use ERIC and how to conduct ERIC searches.
6. Provide research information for proposal writing.
7. Provide opportunities for dissemination of innovative educational practices.
8. Provide a liaison between instructional personnel and area universities, libraries, the Office of Education, and the Division of Planning, Research and Evaluation.

A special orientation and training program for target school librarians was carried out jointly by the D. C. Schools Research Information Center and the State of Pennsylvania's Research and Information Service for Education (RISE). Librarians were trained in basic negotiation and retrieval skills and are expected to be able to provide the following services in their schools:

1. Assist teachers in question negotiation or problem statement by properly completing a search request form including the selection of appropriate ERIC descriptors.
2. Instruct interested local instructional personnel in the use of ERIC resource tools made available to the school libraries through RUP so that these personnel will be able to perform simple manual searches.
3. Transmit completed search forms to the Educational Extension Agent for execution of manual and/or computer searches.

APPENDIX C

TARGET SCHOOLS
READING RESEARCH UTILIZATION PROJECT

Bancroft Elementary School
18th and Newton Sts., NW
Washington, D. C. 20010

Beers Elementary School
Alabama Ave. & 36th Place, SE
Washington, D. C. 20020

Blow-Pierce Elementary School
19th and Benning Road, NE
Washington, D. C. 20002

Bruce Elementary School
Kenyon St. & Sherman Ave., N.W.
Washington, D. C. 20010

Bunker Hill Elementary School
14th and Michigan Ave., NE
Washington, D. C. 20018

Cleveland Elementary School
8th and T Streets, NW
Washington, D. C. 20001

Davis Elementary School
44th and K Streets, SE
Washington, D. C. 20019

Hendley Elementary School
6th and Chesapeake Sts., SE
Washington, D. C. 20032

Lafayette Elementary School
Northampton and Broad Br. Rd., NW
Washington, D. C. 20015

McGogney Elementary School
Wheeler Rd. & Mississippi Ave., SE
Washington, D. C. 20012

Meyer Elementary School
11th and Clifton Sts., N.W.
Washington, D. C. 20009

Miner Elementary School
615 - 15th Street, NE
Washington, D. C. 20002

Noyes Elementary School
10th and Franklin Sts., NE
Washington, D. C. 20018

Petworth Elementary School
8th and Shepherd Sts., NW
Washington, D. C. 20011

Stoddert Elementary School
39th and Calvert Sts., NW
Washington, D. C. 20007

Walker-Jones Elementary School
1st and L Streets, NW
Washington, D. C. 20001

APPENDIX D

RESEARCH INFORMATION CENTER
DIVISION OF PLANNING, RESEARCH AND EVALUATION
PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA
415 12TH STREET, N.W. WASHINGTON, D.C. 20004

SEARCH NUMBER
M
_____D

A. CLIENT INFORMATION:

NAME: _____

TITLE: _____

AFFILIATION: _____

ADDRESS: _____

_____

TELEPHONE: _____

B. CONTACT METHOD:

TELEPHONE REQUEST _____

VISIT _____

IN-HOUSE _____

LETTER _____

OTHER _____

REFERRED BY _____

C. PURPOSE OF INFORMATION SEARCH:

CLASSROOM USE _____

ADMINISTRATION _____

PROFESSIONAL DEVELOPMENT _____

PROPOSAL PREPARATION _____

CURRICULUM DEVELOPMENT _____

OTHER (Specify) _____

D. SERVICE METHOD:

TELEPHONE _____

PICK-UP _____

PERSONAL DELIVERY _____

REGULAR MAIL _____

INTERSCHOOL MAIL _____

EXTENSION AGENT _____

E. STATEMENT OF PROBLEM:

_____

_____

_____

_____

IN-HOUSE INFORMATION:

NEGOTIATED BY: _____ SEARCHER: _____

DATE NEGOTIATED: _____ DATE STARTED: _____

DATE NEEDED: _____ DATE COMPLETED: _____

RESOURCES USED:

ERIC ____ NREP ____ NEA ____ CBE ____ CIJE ____ SAT ____ OTHER _____

SEARCH RESULTS: _____

_____

_____

_____

Form Revised 4/72

SEARCH STATEMENT: _____

_____

CONCEPT 1: _____

SET NUMBER & TOTAL: _____ / _____

CONCEPT 2: _____

SET NUMBER & TOTAL: _____ / _____

CONCEPT 3: _____

SET NUMBER & TOTAL: _____ / _____

NOTES: _____

TIME:

NEGOTIATION _____

SEARCH _____

TOTAL _____

NUMBER OF HITS _____

PRINTS/FORMAT _____

APPENDIX E

Principals' Attitude Rating Scale

You will remember that before the Reading Research Utilization Project got underway, an orientation session was provided to you and some of your staff members. This orientation included background information on the Reading Research Utilization Project, on LRIC, and on the Research Information Center. Below are some questions regarding this project. Kindly check the answer that best expresses your views.

1. Have you availed yourself of the services offered by the RUP Project?

   Yes_____ (2) No_____ (1)

2. Do you like the Program?

   Yes_____ (2) No_____ (1)

3. If you liked the Program, do you find it

   very helpful (4) helpful (3) slightly helpful (2) not helpful at all (1)

4. How do you think your teachers feel about the Project?

   very favorable (4) favorable (3) neutral (2) unfavorable (1)

5. What is your librarian's reaction to the Project? Does she find it

   very helpful (4) helpful (3) slightly helpful (2) not helpful at all (1)

6. Do your teachers use the system?

   a lot (4) some (3) very little (2) not at all (1)

7. Does your librarian use the system?

   a lot (4) some (3) very little (2) not at all (1)

8. Are you satisfied with the services of the extension agent?

very satisfied 4 | satisfied 3 | slightly dissatisfied 2 | very dissatisfied 1

9. How many time have you used the services offered by the Reading Research Utilization Project?

0 1 | 1-5 2 | 6-10 3 | more than 10 4

10. What percent of your staff use the project services?

None 1 | up to 25% 2 | 26-50% 3 | over 50% 4

11. How would you rate this program in your school for those who used it?

very helpful 4 | helpful 3 | not very helpful 2 | not helpful at all 1

12. How would you rate this program in your school overall?

very effective 4 | effective 3 | not very effective 2 | not effective at all 1

13. Do you feel the RUP Program should be expanded within your school?

Yes 2 No 1

14. Do you think the services of the RUP Program should be expanded to the rest of the school system?

Yes 2 No 1

15. Have new projects, programs, or teaching techniques resulted directly from the Reading Research Utilization Project?

Not at all 1 | a few (2 or 3) 2 | quite a few (4-6) 3 | many (more than 6) 4

16. Have you yourself used the materials (RIE & CIJE Indexes & PREP Kits) that have been placed in your school?

Yes 2 No 1

17. If you have used the material, how valuable have your found it?

very valuable (4) valuable (3) not very valuable (2) worthless (1)

18. In talking to other principals, librarians, or teachers, how would you recommend the program?

strongly recommend (4) recommend (3) feel neutral (2) would not recommend (1)

APPENDIX F

PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA
DIVISION OF PLANNING, INNOVATION AND RESEARCH
PRESIDENTIAL BUILDING
415 - 12TH STREET, N. W.
WASHINGTON, D. C. 20004

November , 1972

Dear

As you know, the Research Utilization Project, a school research information service, has been offered to your school during the past year. A description of the project and the services which have been available to you and your staff is enclosed.

Mr. Roger Fish and Mrs. Erika Robinson of the Research Information Center, a part of the Division of Planning, Research and Evaluation, would like to interview you regarding this project. Your suggestions and comments will help us to improve our services to your school and aid in project evaluation.

Your cooperation and assistance to them in this effort will be greatly appreciated. Approximately one hour of your time will be needed for the actual interview. For your convenience, several suggested dates and times are shown below. Would you please have your secretary call Mrs. Robinson in the Research Information Center at 347-6727 indicating your preference. We are hoping that there will be a continuation of U.S. Office Education funding that will enable us to provide information services to you for the second semester. Again we wish to thank you for your cooperation.

Sincerely yours,

Mildred P. Cooper
Assistant Superintendent
for Research and Evaluation

_____

_____

_____

APPENDIX G

Code Book

Column	Card	Item #	Variables	Code	Range
1	1	Q1	Use of services	1=No 2=Yes 9=Missing data	1-2,9
2	1	Q2	Liking of Program	1=No 2=Yes	1-2
3	1	Q3	Helpfulness of program	1=Not helpful at all 2=Slightly helpful 3=Helpful 4=Very helpful	1-4
4	1	Q4	Teachers' feelings about Project	1=Unfavorable 2=Neutral 3=Favorable 4=Very favorable	1-4
5	1	Q5	Librarians' reaction to Project	1=Not helpful at all 2=Slightly helpful 3=Helpful 4=Very helpful	1-4
6	1	Q6	Teachers' Use of System	1=Not at all 2=Very little 3=Some 4=A lot	1-4
7	1	Q7	Librarians' Use of System	1=Not at all 2=Very little 3=Some 4=A lot	1-4
8	1	Q8	Satisfaction with services of extension agent	1=Very dissatisfied 2=Slightly dissatisfied 3=Satisfied 4=Very satisfied	1-4
9	1	Q9	Principal's use of Project	1=0 times 2=1-5 times 3=6-10 times 4=More than 10 times	1-4
10	1	Q10	% of staff using services	1=None 2=Up to 25% 3=26-50% 4=over 50%	1-4
11	1	Q11	Helpfulness of program in school for users	1=Not helpful at all 2=Not very helpful 3=Helpful 4=Very helpful	1-4
12	1	Q12	Rating of program in school overall	1=Not effective at all 2=Not very effective 3=Effective 4=Very effective	1-4
13	1	Q13	Expansion of program within school	1=No 2=Yes	1-2

APPENDIX G (continued)

Column	Card	Item #	Variables	Code	Range
14	1	Q14	Expansion of Program to rest of school system	1=No 2=Yes	1-2
15	1	Q15	Number of new Projects resulting from RUP	1=None at all 2=A few (2 or 3) 3=Quite a few (4-6) 4=Many (more than 6)	1-4
16	1	Q16	Use of RIE & CIJE & PREP materials by principal	1=No 2=Yes	1-2
17	1	Q17	Value of material to principal	1=Worthless 2=Not very valuable 3=Valuable 4=Very Valuable	1-4
18	1	Q18	Recommendation of program to others	1=Would not recommend 2=Feel neutral 3=Recommend 4=Strongly recommend	1-4
19-20	1	1-18	Total of responses to items 1-18		21-58
21-22	1	Operational	Searches for Jan. 1972	00=None 01=1 02=2 etc., each number representing the number of searches for each school for each month	
23-24	1	Hypothesis No. 1	Searches for Feb. 1972		
25-26	1	"	Searches for Mar. 1972		
27-28	1	"	Searches for Apr. 1972		
29-30	1	"	Searches for May 1972		
31-32	1	"	Searches for June 1972		00-15
33-34	1	"	Total # of Searches Jan-June 1972		00-29
55	1	Operational	Searches for March 1971	Number	0-1
56	1	Hypothesis	Searches for Apr. 1971	represents	
57	1	No. 3	Searches for May 1971	Number of Searches	
58	1	"	Searches for June 1971	per School	
59	1	"	Total # of Searches March-June 1971		0-1

APPENDIX G (continued)

Column	Card	Item #	Variables	Code	Range
60-61	1	Operational	Searches for March 1972	Number	00-09
62-63	1	Hypothesis	Searches for Apr. 1972	represents	
64-65		No. 3	Searches for May 1972	Number of	
66-67			Searches for June 1972	Searches	
68-69			Total # of Searches March-June 1972	per School	00-25

APPENDIX G (Continued)

Column	Card	Variables	Code	Range
75	1	Target or Non-Target School	1=Target 2=Non-target	1-2
76	1	Sex	1=Male 2=Female 9=Missing Data	1-2,9
77	1	Race	1=Black 2=White 9=Missing Data	1-2,9
78	1	Status	1=Active 2=Retired 3=Resigned 4=Acting for principal 9=Missing Data	1-4,9
79-80	1	ID# of School	01=Bancroft	01-32
	1		02=Beers	
	1		03=Blow	
	1		04=Bruce	
	1		05=Bunker Hill	
	1		06=Cleveland	
	1		07=Davis	
	1		08=Hendley	
	1		09=Lafayette	
	1		10=McGogney	
	1		11=Meyer	
	1		12=Miner	
	1		13=Noyes	
	1		14=Petworth	
	1		15=Stoddert	
	1		16=Walker-Jones	
	1		17=Aiton	
	1		18=Buchanan	
	1		19=Gage	
	1		20=Garfield	
	1		21=Hardy	
	1		22=Harrison	
	1		23=Leckie	
	2		24=Merritt	
	2		25=Murch	
	2		26=Powell & Annex	
	2		27=Syphax	
	2		28=Tubman	
	2		29=Watkins	
	2		30=Webb	
	2		31=West	
	2		32= J.O. Wilson	

APPENDIX G (continued)

Column	Card	Item	Variables	Code	Range
33	3	Operational	Year of Search	1=1971 2=1972	1-2
34-36	3	Hypothesis	January		
37-39	3	No. 2	February	Number represents number of searches conducted	000-760
40-42	3	"	March		
43-45	3	"	April		
46-48	3	"	May		
49-51	3	"	June		
52-54	3	"	Total for 6 months		

Feb. 1973
Collect Data on # of searches
March 1973
Code Data on # of searches and on Primary Attitude Rating Scale
May 1-15, 1973
Key Punch Data
May 16-23, 1973
Run computer Programs
May 23-June 1973
Analyze Data
June 15-30, 1973
Write Final Report
July 1973
Revise Final Report
Aug. 1973
Publish Final Report
Nov. 27, 1972-January 1973
Administer Revised PARS
Nov. 20-24, 1972
Revise Pilot Attitude Rating Scale
Oct. 16-Nov. 3, 1972
Pilot Test Revised Attitude Rating Scale
Oct. 2-13, 1972
Design Revised Attitude Rating Scale

CHAPTER IV

CONCLUSION

The focus of this project was upon the process of translating research into educational practice at the instructional level in the D. C. Public School system. This endeavor has been carried out through the establishment and evaluation of an interpersonal information dissemination and utilization network in 16 target elementary schools. The infrastructure of this network consisted of a number of elements, personal and otherwise, and which are described in the body of this report. This network was designed to bridge the geographical and service gap between central research capabilities and resources of the system with the needs of key field personnel--teachers, principals, and librarians in the target schools. Emphasis in the project was in the area of reading.

To effect the link between resources and practitioner, an educational extension agent, initially termed a "liaison researcher", served as an active personal communication link or interface with target school personnel. The librarian in each school was further identified as a gatekeeper, i.e., a locally based channel for information dissemination and contact with teachers.

A major goal of the project was to make target personnel more knowledgeable about research findings and how these findings may be utilized in their day-to-day teaching and supportive activities. A second goal was to provide information to local schools for the development of programs.

The case studies included in this report cover a variety of intended purposes, including proposal development, classroom use, demonstration and staff development, advanced studies, program planning and others. These case studies demonstrate the practical manner and diverse ways in which target school personnel, with the aid of the extension agent program, translated educational research into programs and activities to meet the needs of students and school personnel.

Results of the Principal's Attitude Rating scale revealed that fifteen out of sixteen principals liked the project and held favorable attitudes toward it. No principal disliked the project. The majority of the principal's favored expansion of RUP both within their own schools and to the rest of the school system. Regarding the question of how they would rate RUP in their school for those who used it, all principals gave the project the highest or a high rating. On the other hand, the principal's rated use of the program lower in the school overall. These seemingly divergent findings can be explained by the fact that service to anyone in the target schools was near the zero level prior to RUP and the building of awareness

of service capabilities among target school personnel was and is an on-going process. This may offer an insight into Havelock's (1970) comment that many measurable benefits in a project like this might not be generated for an indefinite period of time even though the program worked perfectly. An evaluation might reveal "no effect" when a real effect was still emerging. In any event, it is clear that the building of awareness is a process which should be kept in mind in such projects in the future.

An examination of searches conducted during the project reveals that most search requests from the target schools came from teachers and librarians. While three out of sixteen principals never personally used RUP services, eleven principals, or 68.8%, used the services one to five times. One principal used the services six to ten times, and one principal indicated she had used RUP services more than ten times. In relation to the adoption and utilization process generally, the majority of the principals reported that the RUP was responsible for some new projects in their schools while two principals attributed no new projects to RUP. It should be noted that these results with the principals were attained with minimal personal contact between the extension agent and the principal. These contacts consisted generally of initial orientation sessions, and brief visits to the principal's office by the extension agent in the early days of the project. Once the project was under way the LEA's focused their main attention on search and retrieval activities related to serving teachers. In future projects such as this, more attention should be directed toward reinforcing the principal's role as the instructional and administrative leader of the school. This strategy could include providing services especially designed for principals and demonstrating to them the practical uses of research information.

A further finding was that the Research Utilization Project with its emphasis on personal services was responsible for a large increase in the number of requests for information from teachers and other field personnel and consequently a considerable increase in the level of service and support to instructional personnel in the target schools. Specifically, data collected and analyzed indicated that RUP was responsible for a large increase in the number of searches, both when target schools were compared with non-target schools and when target schools were compared with themselves during RUP and non-RUP time periods.

The Principal's Attitude Survey indicated less frequent use of materials placed in target schools, such as RIE and CIJE, than of RUP services generally. This is probably due to the fact that the extension agents appeared at regular intervals at the schools to remind staff of the availability of their services.

As indicated above, this project met with overall approval. No principal had any adverse reaction to it. Part of this may well be due to the fact that under such a project, participants receive more than they give. Moreover, the additional resources and services complimented and supported local efforts to raise the academic level of students and further the professional development of teachers.

It may be that state education agency heads and other educational administrators who are concerned with improving the management and administrative decision-making process through ready access to the latest information on research and education, will see the value in initiating or expanding such programs in their own state, intermediate, city, or local districts. But teachers and principals are decision makers too. They make decisions daily regarding the educational content and instructional techniques used in the classroom.

Briefly, and in conclusion, this study affirms the problem stated in Lavin (1971), Havelock (1967), (1970), and others that a gap exists in the system of knowledge transfer, and that this gap causes or contributes to the lack of utilization of educational research. The project supports the findings of previous research in demonstrating the effectiveness of the personal contact rendered by the educational extension agent in bridging this gap.

Specifically, the results of the Principal's survey evaluation of the Research Utilization Project demonstrated that an impact was realized in the sixteen target schools for the following reasons: 1) the Project was responsible for a large increase in the number of services; 2) it demonstrated that principals were well pleased with the [illegible] products and services supplied by RUP and held favorable attitudes toward the Project; 3) it determined that the information supplied through RUP resulted in new projects, programs, and teaching techniques; and 4) it demonstrated a moderate use of material placed in school libraries by the Research Utilization Project.

APPENDIX A

READING RESEARCH UTILIZATION PROJECT

RESEARCH INFORMATION CENTER
Departments of Research Evaluation
Division of Planning, Research and Evaluation

Spring 1972

TO RESPONDENT:

AS YOU KNOW, YOUR SCHOOL IS ONE OF SEVENTEEN PARTICIPATING IN THE DISTRICT OF COLUMBIA PUBLIC SCHOOLS READING RESEARCH UTILIZATION PROJECT. IN AN EFFORT TO PROVIDE MAXIMUM SERVICE TO YOU IN MEETING YOUR NEEDS AND THOSE OF YOUR STUDENTS, WE ARE CONDUCTING A SURVEY OF THOSE NEEDS AS YOU SEE THEM. HOWEVER, WE BELIEVE THIS IS A NEEDS SURVEY WITH A DIFFERENCE. THE DIFFERENCE IS THAT YOUR RESPONSES WILL SERVE AS A GUIDE TO OUR PROJECT STAFF IN LOCATING USABLE INFORMATION MATCHED TO YOUR PROFESSIONAL INTERESTS AND NEEDS IN THE SCHOOL SETTING.

EACH FACULTY MEMBER OF THE PARTICIPATING SCHOOLS SHOULD RECEIVE A COPY OF THIS SURVEY FORM. IF YOU HAVE A REQUEST FOR INFORMATION, PLEASE COMPLETE, FOLD ON THE DOTTED LINE, STAPLE AND RETURN THIS FORM AT YOUR CONVENIENCE THROUGH INTRA-OFFICE SCHOOL MAIL. ADDITIONAL SURVEYS OF NEEDS WILL BE MADE NEXT SCHOOL YEAR WITH DIFFERENT OR ADDITIONAL CATEGORIES FROM WHICH TO SELECT.

- - - -

SURVEY OF INFORMATION NEEDS

INSTRUCTIONS FOR COMPLETING THIS FORM: LISTED BELOW ARE SOME AREAS OF INFORMATION WHICH MAY BE OF INTEREST OR USE TO YOU. IF YOU HAVE A NEED FOR INFORMATION IN ONE OR MORE OF THESE CATEGORIES, PLEASE PLACE A CHECK IN THE APPROPRIATE SPACE. FOR EACH ITEM REQUESTED, PLEASE GIVE THE DATE BY WHICH YOU NEED THE INFORMATION AND INDICATE THE USE OR APPLICATION OF THE INFORMATION YOU ARE REQUESTING, UTILIZING THE CODE LISTED BELOW. SPACE FOR WRITE-IN REQUESTS AND NEEDS IS PROVIDED AT THE BOTTOM. A RESPONSE TO YOUR REQUEST WILL BE MADE AS SOON AS POSSIBLE.

1. Classroom Use
2. Administration
3. Professional Development
4. Proposal Preparation
5. Curriculum Development
6. Other (specify)_____

AREA OF INTEREST	DEFINITELY NEEDED	DATE NEEDED	APPLICATION OR USE OF INFORMATION
Reading Difficulties and Learning Difficulties			
Reading Development, Instruction, and Programs			
Reading Diagnosis and Tests			
Reading Comprehension and Skills			
Reading Readiness			
The Informal Reading Inventory			
Vocabulary Skills and Vocabulary Development			
Slow Learners			
Correcting Reading Problems in the Classroom			
Assessment of Achievement in Reading & Math			
More Effective Instruction in Elementary School Mathematics			
Grouping for Maximum Instructional Effectiveness			
Individualized Reading			
Team Teaching and Microteaching			
Headstart Follow-Through Programs			
Reinforcing Productive Classroom Behavior			
Student Behavior and Behavior Modification			
Drugs and Health			
Parental-Community Involvement in the School			
Career Development			
Teacher Attitudes Toward the Disadvantaged			
Values and Motivations of the Disadvantaged			
Teacher Militancy and Teacher Morale			
Bilingual Education			
Others (specify):			

Be sure to provide the information requested on the reverse page.

APPENDIX B

LOG OF RESPONDENTS TO THE SPRING 1972 NEEDS SURVEY OF THE READING UTILIZATION PROJECT

CONDUCTED BY THE RESEARCH INFORMATION CENTER, DIVISION OF PLANNING, RESEARCH AND EVALUATION, D. C. PUBLIC SCHOOLS

NEEDS SURVEY NO.	SEARCH REQUEST NO.	CLIENT INFORMATION NAME	SCHOOL	POSITION	DATE RECEIVED	DATE NEEDED	DATE COMPLETED	STATUS	TOPIC CATEGORIES	USAGE CATEGORIES	SERVICED BY
NS-971		Alan Capon	Bancroft	Teacher	6-19-72	9-72				1	
NS-972		F. Bittinger	Meyer	Teacher	6-16-72	9-72				1,3	
NS-973		Jennifer J. Whiting	Bancroft	Teacher	6-15-72	9-72				1,5	
NS-974		Ruth Henley	Meyer	Teacher	6-15-72	9-72				1	
NS-975		Helen H. Safrit	Bancroft	Principal	6-15-72	7-5-72				2	
NS-976		Laureen J. Baker	Bancroft	Teacher	6-15-72	10-72				1	
NS-977		Karen Cooper	Beers	Teacher	6-16-72	9-72				1,3	
NS-978		Grace S. Lick	Beers	Teacher	6-16-72	9-15-72				1	
NS-979		Jacqueline D. Alexander	Meyer	Teacher	6-16-72					1	
NS-910		Mrs. T. R. Robinson	Davis	Teacher	6-20-72	9-72				1	
NS-911		Mrs. Wilma Darasan	Davis	Teacher	6-20-72					1,3,5	

KEY

STATUS CATEGORIES

(1) IN PROCESS
(2) COMPLETED
(3) PENDING

USAGE CATEGORIES

(1) CLASSROOM USE
(2) ADMINISTRATION
(3) PROFESSIONAL DEVELOPMENT
(4) PROPOSAL PREPARATION
(5) CURRICULUM DEVELOPMENT
(6) OTHER

APPENDIX C

RESEARCH INFORMATION CENTER
DIVISION OF PLANNING, RESEARCH AND EVALUATION
PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA
415 - 12th Street, N. W. Suite 1013
WASHINGTON, D. C. 20004

Dear Colleague:

This letter is being sent in response to your request for information dated _____ reference number _____.

RESULTS OF YOUR REQUEST FOR INFORMATION

☐ The following materials are being mailed to you:

_____

_____

☐ The information you need may be found in your school library. Ask for:

PREP KIT number _____.

(Other) _____

☐ A list of published PREP materials has been included with this letter. The report numbers which are checked relate to your information request. Information on ordering PREP materials is included on the reverse side of this list.

HELP! WE HAVE A QUESTIO ABOUT YOUR QUESTION

☐ Please indicate the application or use of the information topic(s) you checked.

1. Classroom use
2. Administration
3. Professional development
4. Proposal preparation
5. Curriculum development
6. Other (specify)_____

_____

☐ By what date do you need this information? _____

☐ Please give a telephone number where you can be reached for any further instructions. _____

☐ Other comments:_____

APPENDIX D

PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA
DIVISION OF PLANNING, INNOVATION AND RESEARCH
PRESIDENTIAL BUILDING
415 - 12TH STREET, N. W.
WASHINGTON, D. C. 20004

Spring 1973

INFORMATION NEEDS REQUEST FORM

Dear Educator:

The Research Information Center Staff is pleased to present a Survey of Information Needs to faculty members of the schools participating in the RESEARCH UTILIZATION PROJECT.

This survey will enable our staff to identify and service information needs of those participating. Once those needs are identified, resources can be brought together to answer your information problems.

The second needs survey is in the form of a request for information. Respondents are asked to provide personnel identification on this page. Directions for identifying information needs are on the reverse side. Your participation in this survey is voluntary.

1. PERSONNEL IDENTIFICATION

Name:_____

Position:_____ Telephone:_____

School:_____ Route No:_____

Address:_____ Today's date:_____

_____ Date needed:_____

****

When you have completed all items, front and reverse, return to:

RESEARCH INFORMATION CENTER
ROOM 1013, PRESIDENTIAL BUILDING
SCHOOL MAIL ROUTE 1

2. PROBLEM IDENTIFICATION

Please describe below the kinds of information you need as an educator. As far as possible, use suggested terms from these three groups (PROCESS, HUMAN VARIABLES, and SUBJECT AREA). You may substitute your own terms if the concept you wish is not included below.

FIRST, write a short description of your problem in the space provided. (See the EXAMPLE below.)

THEN, supply the terms which describe your problem.

EXAMPLE:

PROBLEM: I need information on the effect of cultural disadvantagement on career education and guidance.

PROBLEM = cultural disadvantagement AND counseling AND career education

YOUR PROBLEM: _____

_____

_____

PROBLEM = _____ AND _____ AND _____

PROCESS	SUBJECT AREA	HUMAN VARIABLES
Bilingual education	Art	Ability
Counseling, guidance	Career education	Achievement
Curriculum planning	English language skills	Attitude
Early childhood education	Family life education	Behavior
Educational administration	Foreign language	Cultural disadvantagement
Facilities planning	Health	Emotional disturbance
Grading	History	Interests
Inservice program	Homemaking	Learning
Library services	Humanities	Memory
Media selection	Mathematics	Mental retardation
Personnel administration	Music	Motivation
Policy Planning	Natural sciences	Perception
Research	Physical education	Performance
Scheduling	Reading	Physical handicaps
School/community programs	Social problems	
Special education	Social studies	
Teacher/parent relations		
Teacher/student relations		
Teaching techniques		
Testing		

3. PRODUCT IDENTIFICATION

a. What type of information do you need? (check those that apply)

___Overview ___Program oriented
___In depth ___Research oriented

b. How many references do you expect or prefer? (check one)

___up to 10 ___up to 25 ___up to 50

APPENDIX E

RESEARCH NEWS

AN AID TO DISSEMINATION OF INFORMATION ON RESEARCH IN EDUCATION FOR THE PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

ber 1 Prepared as a Professional Service by the Research Information Center Division of Planning, Research and Evaluation Fall, 1972

ABOUT THIS PUBLICATION

ARCH NEWS is a research and dissemination service for the D.C. Public Schools. publication is intended to supplement the services of the Research Information ter Staff. Written for the busy educator, RESEARCH NEWS will offer condensed ts of interest and summaries of recent research in the field of education. Your gestions, comments and questions are welcome.

INNOVATIONS AND THE SCHOOL CURRICULUM

Curriculum Development Means Careful Curriculum development means more than text- selection. There has been a shift away from the notion that curriculum de- opment may be founded on the selection of textbooks and other printed materials. reasingly, groups of educators are attempting to produce curriculum materials programs locally.

ficit in such efforts is the suggestion that those involved should be aware of most recent "new" ideas in education. Local planners must consider the latest ings in such areas as psychology and sociology, as well as education. And as hers become more involved in the planning of their own curriculum, the need s for more and better sources of information. It is often difficult to locate apply the necessary kinds of information--there are just too many publications keep up with.

ing information which relates to specific teaching areas is easier. Educational rnals keep their readers abreast of the increasing flow of information in English other subject centered fields. Curriculum planners who use the idea of subject ured publications run the risk of leaving some educational stones unturned--the ies related indirectly to a given content area.*

Where Does One Look to Find the Most Recent Information? One source is ERIC system. This nationwide information retrieval system can provide easy ss to the latest materials. Metric teachers are particularly fortunate--an o date ERIC collection is available to them through the Research Information ter.

As a First, D.C. is the first public school system in the nation to use on-line uter retrieval for research purposes. For the teacher working on curriculum elopment, this means quick access to a number of informational items that have evance to the problem.

ERIC Now Has

ly 25,000 current reports on hundreds of educational topics are added to the system each year. The collection now numbers over 110,000 documents and ed articles on topics ranging from Adult Education to Zoology.

*Reprinted from English Journal 1972 article by John P. Mattson. Reprinted with the mission of the National Council of Teachers of English.

APPENDIX F

RESEARCH NEWS

AN AID TO DISSEMINATION OF INFORMATION ON RESEARCH IN EDUCATION FOR THE PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

Number 2 — Prepared as a professional service by the Research Information Center, Division of Planning, Research and Evaluation — Fall, 1972

MATERIALS FOR READING INSTRUCTION

Teachers of Grades 1-3 Find the Guide to Materials for Reading Instruction A Valuable Resource

This publication is intended to keep educators informed about the constantly increasing [illegible] materials in the area of reading instruction. This [illegible] reading texts, seatwork sheets, reading tests, recreational reading materials, workbooks and supplemental readers. The Guide, published and [illegible] by the Curriculum Bureau, is an update of earlier issues in the series. The current issue contains [illegible] entries from the publishers. The book is organized by [illegible] in large outline format. Classification of items is based on [illegible] of item; level of reading difficulty [illegible] skills developed; and type of [illegible]. Information provided [illegible] is based on [illegible] by the publishers. There is an [illegible] publishers. There is no [illegible] in the Guide. [illegible] in each [illegible] are in [illegible] sequence. The Guide [illegible] in each [illegible] service in [illegible] to the [illegible] Public Schools of [illegible].

APPENDIX G

RESEARCH NEWS

AN AID TO DISSEMINATION OF INFORMATION ON RESEARCH IN EDUCATION
FOR THE PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

Number 2 Prepared as a Professional Service by the Research Information Center
Division of Planning, Research and Evaluation Spring, 1972

BEHAVIORAL OBJECTIVES

Following is article from EDUCOLOR, the educational consumer's newsletter, reprinted with the permission of the ERIC Institute.

[illegible] be prepared for some, not less building of school curricula around statements of behavioral objectives. Such statements will either continue to be developed by [illegible] or purchased from rapidly expanding groups of objectives "brokers" (who will only [illegible] the valuable experience of having to state clearly what it is you are trying to teach). Armed with objectives galore, curriculum directors, media specialists, and teachers will then become aware of a reality that has often escaped them: Most curriculum materials on the market do not begin to [illegible] objectives that are SPECIFIC enough to be helpful in [illegible] instructional materials or [illegible] purchase to the objectives it has developed.

Look for new [illegible] : If lots of commercial materials will suddenly be [illegible] with lists of objectives bearing little relationship to [illegible] materials, [illegible] other materials designed to [illegible] the objectives "broker" will offer the [illegible] pre-packaged objectives, [illegible] relationship between what they say and [illegible] they use.

[illegible] your objectives as carefully as you can. Demand that the [illegible] you buy will [illegible] those objectives; also demand [illegible] that the materials have [illegible] the objectives the publisher claims [illegible].

[illegible]

[illegible] Research Information Center is currently preparing an annotated bibliography of [illegible] Washington, D.C. [illegible] bibliography will be available [illegible] to educators in the [illegible] about this or [illegible] Director of the Research Information Center, 347-5777.

APPENDIX H

RESEARCH NEWS

AN AID TO DISSEMINATION OF INFORMATION ON RESEARCH IN EDUCATION
FOR THE PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA

mber 4 — Prepared as a Professional Service by the Research Information Center, Division of Planning, Research and Evaluation — Spring, 1973

A DISSEMINATION STRATEGY FOR THE PUBLIC SCHOOLS

e Reading Research Utilization Project (RUP) was funded in Washington, D. C. in ly 1971. The purpose of the RUP is to support the D. C. Public School System jectives to raise reading achievement of the students. To accomplish this goal, e Departments of Research and Evaluation, through the Research Information Center tends special research information services to 15 elementary schools on a pilot is. Two elements of this pilot model are described below.

ucational Extension Service. The educational extension agent is an adaptation of the agricultural extension agent, applied to education. The extension agent serves as a link between central resources and practitioners. To reach the target audience, the extension agent works with librarians in the pilot schools.

The RUP extension agents provide the following services:

1. Identify research needs of the clients through problem negotiation.
2. Perform manual and computer searches of the RIC system.
3. Review retrieved information for applications to the client's research need.
4. Assist target school librarians in demonstrating RIC search procedures and educational products to interested educators.
5. Provide up-to-date information on dissemination of innovations developed in the D. C. Public Schools and elsewhere.

rmation Needs Survey. Many teachers in the pilot elementary schools responded to the Survey of Information Needs conducted last Spring. A gratifying number of teachers made suggestions for improving our survey instrument and information products. This year's needs survey uses a desire-as-you-go approach where a teacher with an information need can specify her SUBJECT AREA, the PROCESS she is interested in (reading, testing, etc.) and the KNOWN VARIABLES which apply to her problem situation (IQ, motivation, etc.). Every completed needs survey request will be processed by a Research Information Center staff member, and all retrieved information will be reviewed by an extension agent. Documents and articles which are judged especially useful will be furnished to the client wherever possible.

To further personalize the second needs survey, extension agents will attempt to contact each respondent to make sure the retrieved information is relevant to the client's need. Our aim is to provide the latest, up-to-the-minute information for each person participating in our second Survey of Information Needs. If you have any questions about this needs survey, feel free to call us at 347-7277.

APPENDIX I

TERM ACADEMIC ACHIEVEMENT

SEE ALSO:

SEE:

0	1	2	3	4	5	6	7	8	9
00040		00042	00043	00014			00037		00039
		00052	00053	00024 +	00035		00047		00039

SCAN MATCH CARD

APPENDIX J

DOCUMENT RESUME

DATE RECEIVED:
DATE OF RESUME:

1. Document Accession Number:	2. Project Number:
3. Title of Document:	
4. Authors or Key Officers:	
5. Project Title:	
6. Duration of Project: From date assigned: _____ to: _____	
7. Divisions or Departments involved:	
8. Pages: / 9. Date Published Mo/Yr / 10. Available from EDRS? no ☐ yes ☐ ED_____	
11. Type of Report: Proposal ☐ Interim ☐ Final ☐	
12. Subject Area: _____	
13. Indexing Terms:	
14. Abstract:	
15. Funding Data: regular budget ☐ Federal ☐ other ☐ / 16. Contract: _____	
17. Source(s) of Funding: _____	
18. Signature of Abstractor:	

APPENDIX K

Some Recommended Procedures for On-Line DIALOG Searching

1. DOWN PROCEDURES. If an operator suspects that the computer is inoperative, the problem may be local or distant. To confirm local trouble, follow these steps:

   a. Check local hardware--type a line, depress the END button, return the cursor to the beginning of the line you typed, turn on Terminet, and depress OUT. The Terminet should type our your line. If it does not, local trouble is confirmed.

   b. Check distant hardware--with the blue light ON, type in any letter, depress INT. The light should go out, and the display read

      PROCESSINGX

      and return

      INVALID COMMAND CODE

      If the blue light goes out and stays out, it is likely that distant hardware problems are responsible for the trouble. However, still try to solve problem by pressing MASTER CLEAR INT.

2. REPORTING DOWN TIME. Report all confirmed down time in log of DIALOG operations. Also report time of return to service.

3. TURNING OFF. If you are the last operator of the day, check the sign-up sheet to confirm that all operators have executed their searches as scheduled. SEND MESSAGE to terminal 1 (31/) that work is finished, please stop polling, please acknowledge. Wait at the terminal until your message is acknowledged. Repeat message if necessary. Leave local hardware turned on until regular shut down time.

4. SEARCHING HINTS.
   a. Average time per set may be reduced by stringing commands. Punctuate your commands with a semi-colon (;) to give the computer several jobs to do at once.

   b. Average number of sets may be reduced by selecting E and R numbers from displays. A number of terms using the same qualifier (example: TEACHING...) may appear in an expand of one of the terms. To save sets, punctuate E and R numbers with a comma.

      SELECT E1, E3, E4, E6 will return as one set of four terms.

   c. Average time per search may be reduced by limiting the number of displayed items to a few needed to insure relevance.

Prepared By
Research Information Center
Departments of Research and Evaluation
D. C. Public School

March 1973

APPENDIX L

A Guide To Preparing Information Utilization Documentation - The Case Study Approach

Format: narrative consisting of four divisions-client information; request; search process; results of search. Length-two page maximum.

1. CLIENT. One or two paragraphs to include as many of these information items as are thought applicable: school; grade level taught; professional status; approximate educational preparation (degree, area of specialization, advanced studies); school and community background (number of teachers, students, special teachers, special projects).

2. REQUEST. Indicate the topic of the request, negotiated search statement, were other resources consulted by the client. Describe contact method (visit, call, EEA, mail) Date initiated, client's reason for initiating information request.

3. SEARCH PROCESS. Approximate times for negotiation, manual/computer search; transformation; duplication and other clerical tasks; dissemination of retrieved information; follow-up on the part of the EEA; Selection of resources available to the extension agent (manual search, computer, subject area specialist, outside authority, GRF, NEA, etc.)

4. RESULTS OF SEARCH. Regarded as most significant part of Information Utilization Documentation. Include in first section output of search: printouts, abstracts, hard copy prints, microfiche reproduction, other materials. Describe method of transmittal to client; follow-up calls to determine relevance or utilization. Finally, describe how the information you provided was applied. Insert a brief statement by the client at conclusion of utilization report.

5. INVENTORY OF SELECTED TYPES OF CHANGE. The following list of types of changes is not exhaustive but may serve as a helpful reminder in categorizing types of changes that occur.

   Organizational change
   Curricular change
   Instructional approach
   Scheduling
   New equipment purchases or utilization
   Personnel resources
   Program in school-community relations
   Inservice training
   New instructional system
   Program for special group of students

6. OTHER TYPES OF UTILIZATION.

   Coursework
   Reports
   Committee work
   Professional growth

APPENDIX M

A Checklist For The Extension Agent Preparing Information Utilization Documentation

1. CLIENT

   a. School
   b. Grade level taught
   c. Professional status (title)
   d. Approximate educational preparation (years above BA)

2. SCHOOL AND COMMUNITY

   a. Number of teachers
   b. Number of students
   c. Special teachers, resource and others
   d. Special projects, ESEA and others

3. REQUEST

   a. Topic, negotiated search statement
   b. Were other resources consulted first? Results?
   c. Contact method, date initiated
   d. Client's reason for initiating request

4. SEARCH PROCESS

   a. Times for negotiation, search, transformation, dissemination, follow-up
   b. Selection of resources by extension agent

5. RESULTS OF SEARCH

   a. Search output (printouts, articles, hard copy, fiche, other)
   b. Method of transmittal to client
   c. Follow-up activities by extension agent
   d. Identify types of information utilization, type of change
   e. Brief statement by client to be quoted in case study

Prepared by Research Information Center
Departments of Research and Evaluation
Public Schools of the District of Columbia